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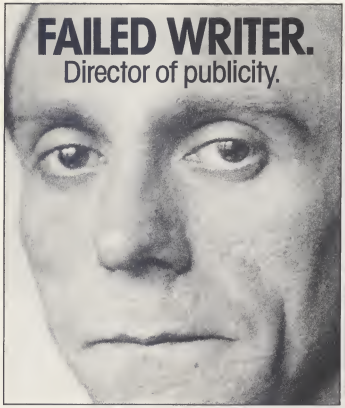

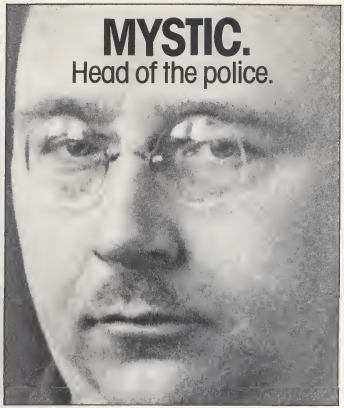

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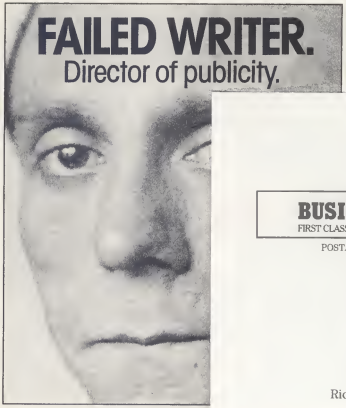

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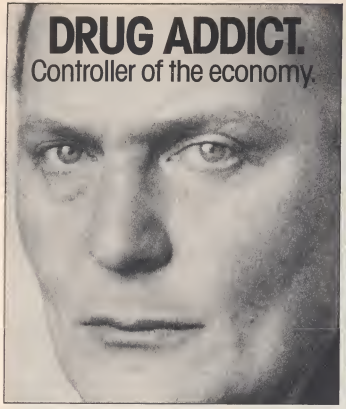

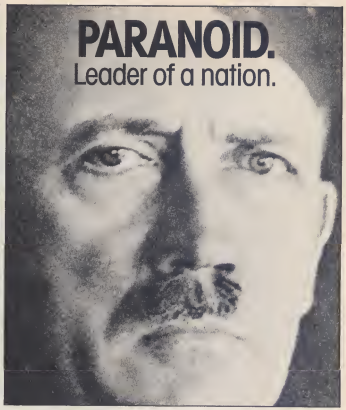

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World War II

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COVER: Between battles in Tunisia in early 1943, crewmen of a Crusader III tank of the 1st Armored Division clean out the bore of its 6-pounder gun. LEFT: In earlier desert action, tank-busting Hurricane IIDs of 6 Squadron RAF take to the air (see story, Page 34). MIDDLE: The Japanese had established complete air superiority over the Philippines by April 1942, when two slow-moving PBY's defied it in a desperate attempt to get in and out of Corregidor (see story, Page 26). RIGHT: Resplendent in monocle and field marshal's uniform, Walther Model was as hardened a Nazi as he looked, with a deadly intuitive command of defensive strategy (see story, Page 12).

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But that's only the beginning, if the peaceniks have their way and Russia ever does take over. The alternative might be to spend the rest of your days up near the Arctic Circle.

Say, what's going on here? Has the Conservative Book Club suddenly started offering kooky books?

Not on your life — and we use those words advisedly. This one is by Robert Conquest, who probably knows as much about the Soviets as any Westerner alive today. Conquest, now a senior research fellow at the Hoover Institution, wrote the classic study of Stalin's reign of murder, *The Great Terror*. Co-author Jon Manchip White is the Lindsay Young Professor of English at the University of Tennessee. So you'll be reading a serious book about a grim possibility. This isn't a *1984*-style fantasy. *This book is based entirely upon what hundreds of millions have suffered when the Communists took over — but with ingenious variations added especially for America.*

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- Major immediate problems, not excluding gang rape by the invading Russian troops (who will be called "peacekeepers").
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- From the official Soviet list of people subject to repression in the Baltic states, some lessons.
- What will happen to your house. Your car. Things you take for granted now that you'll drool over then.
- The New America: 7 characteristics.
- Where the resistance activity will start. What it will have to do first. How the Communists will counter the freedom fighters. Where to learn about guerrilla warfare, and about *surviving*.

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Off Leyte, a destroyer commanded by a Cherokee from Oklahoma prepared to attack the Japanese Fleet.

When the Japanese sent a powerful column of cruisers and battleships as battering ram against the back door of Leyte Gulf in the fall of 1944, few would have drawn the slightest equation to the flat lands of Oklahoma in distant America. Even more remote would have been any thoughts of the native Americans (related story, Page 10) who roamed the virgin continent before the technologically advanced Europeans learned to bridge entire oceans in their great ships.

Indeed, what could have been less relevant in 1944, as the world's modern fleets gathered for the greatest naval battle in history? Relevant. . .except that it *was* an American Indian, a Cherokee from landlocked Oklahoma, who led the counter-attack against the seemingly overwhelming Japanese column at the critical moment of battle.

Commander Ernest E. Evans takes command of the destroyer Johnston—*both would be lost off Samar, after earning a rare salute from the enemy.*

Among the 216 American ships engaged in the Battle of Leyte Gulf against 64 Japanese vessels. . .among the 143,000 American personnel (and 42,800 Japanese), few ships or sailors will be remembered so well as the U.S. destroyer *Johnston* and her fighting skipper, Commander Ernest E. Evans, an Annapolis graduate from Pawnee, Okla.

As the situation unfolded October 24, 1944, on a gigantic chessboard of 500,000 square miles, Admiral Takeo Kurita's Center Force, approaching the island of Leyte from the rear, had been badly battered and turned away from the San Bernardino Strait. Or so it seemed.

During the night, 24-25 October, the Japanese Southern Force had been caught negotiating the narrow Surigao Strait and mauled so badly that the lower arm of a giant Japanese pincer appeared cut off. Meanwhile, the American invasion of Leyte—MacArthur's return to the Philippines—continued apace, apparently not to be overly disturbed by the last great sortie of the Japanese Imperial Navy.

But Kurita, last seen hightailing in opposite direction after losing one of Japan's two "super" battleships on the 24th, was not to be so easily denied. Unknown to any on the American side, he had turned his Center Force about during the night and now was barreling down the San Bernardino alleyway.

Including Japan's second "supership," the *Yamato*, Kurita's juggernaut burst upon "Taffy 3," a weak flotilla of six slow-moving escort carriers and their seven "small boy" escorts. It was sharks against ducks in a mill pond.

Blowing smoke and spitting torpedoes, though, the incredibly brave *Johnston* turned to the attack despite the hopeless odds. As other destroyers joined in, even destroyer escorts, the hits they made, the confusion they sowed, the time they gave most of the unprotected carriers to escape, all combined to throw Kurita off stride. Also beset by a swarm of attacking aircraft, his powerful *Yamato* was sent scurrying to avoid torpedo tracks, Kurita in the end did not plunge on, into the vulnerable Leyte landing zone.

Why he didn't brush aside his waspish attackers has been a matter of debate ever since, but one major reason was the unexpected ferocity of the "small boy" attacks, with "General Quarters Johnny," the *Johnston*, showing the way.

Fondly called "Chief" by his men, Evans never faltered in pressing his attack or interdiction tactics, even when the torpedoes were gone, when his upper clothing had been sucked right off him by the blast of arriving Japanese shells. . .when he had lost two fingers of his left hand. Or when, at the end, with all guns but one five-incher out of action, his *Johnston* was surrounded by a ring of enemy ships.

As she went down, a Japanese skipper was seen to salute the gallant *Johnston* from his own destroyer's bridge.

Later, a grateful nation betsowed upon its American Indian son the Medal of Honor. Sadly, it would be posthumous, since Commander Evans was one of the 186 *Johnston* crewmen lost in the memorable battle. But he undoubtedly knew those odds before even taking his *Johnston* on what naval historian Samuel Eliot Morison later called "her mad, brave course" into the teeth of the oncoming Japanese column.

Prepare, he had told his crew at the very outset of battle, "Prepare to attack major portion of Japanese Fleet." And no exaggeration—they did.

C.B.K.

World War II

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Only the Germans had a robot wandering the battlefield—their diminutive giant called Goliath

By Lawrence M. Greenberg

At dawn on February 16, 1944, the German army launched a major counter-attack to crush the fragile Allied beachhead at Anzio. American defenders, pre-warned of the imminent attack from overconfident prisoners, wondered what the Nazis would throw at them next. Already they had seen a number of new weapons—the 75mm Panther Pzkw V tank; the self-propelled 88mm Flak 41; "Popcorn Pete," clusters of small butterfly bombs dropped by German night fighters; and the infamous 280mm railway guns, "Anzio Annie" and "Anzio Express," with their 65-foot barrels and amazing, if inaccurate, 63,000-yard range.

Remote-controlled Goliath tanks did not always work, but a resourceful soul like this British officer in France could always make some good use of them.

Along the Albano-Anzio Road, American infantry soon did confront yet another new and unusual-looking weapon. Looking like miniature, turretless tanks and trailing cable behind them, the green-painted machines emerged from the enemy line and crawled slowly toward the GIs.

On that first day of the German attack, 13 of these unusual vehicles were employed, and all but three had to be dragged away by German engineers after they bogged down in ground made nearly impassable by heavy rains. The remaining three were destroyed by Allied gunners once curiosity yielded to practicality and they engaged the slow-moving devices. Ordnance technicians soon identified the remains as German *Leichter Ladunsträger* (Sd.Kfz. 302), or as "Goliath" remote-controlled demolition vehicles.

Designed for use by specially trained engineers—usually *Panzerpionier Kompanien* (Goliath) or various *Panzerabteilungs* attached to Tiger tank units—the diminutive Goliath was intended to precede tanks into battle to breach minefields or destroy enemy fortifications with its internal explosive charge. However, despite reported employment in Warsaw and limited success during the largest tank battle of all time at the Kursk Salient in July 1943 (its first use in actual combat), Goliath did little to help 10 German divisions trying to defeat four-and-one-half Allied divisions, backed by heavy air support and fire from two offshore cruisers at Anzio.

Although never before employed against American or English troops, once word of Goliath spread, and gunners learned that it was susceptible to most small-arms fire, the machine became easy prey. During the Allied attack to close a two-mile-wide and mile-deep German encroachment through the U.S. 45th Division, 14 Goliaths met their "Davids" in a single day. Named for the Biblical giant, but referred to by its users as "a troublesome and rather dangerous toy," Goliath soon received the less glorious American nicknames of "Beetle," "Doodlebug" and "Minedog."

Ironically, American names were more fitting than the German. The Goliath 302, the first of two variants to see action, stood but knee-high, just 17¼ inches tall, and was only 5 feet 2½ inches long and 34 inches wide. The 660-pound system moved on two 6½-inch-wide lubricated tracks that rode on four 3½-inch diameter bogies, each mounted on a coil spring lever arm. Three support rollers guided the track from the 9-inch diameter rear idler wheel to the front-mounted 10½-inch drive sprocket. Propulsion came from two 5-horsepower, Bosch, 24-volt starter motors, each mounted in a sponson built into the hull's side and directly in front of a second sponson that held one of two series-connected 12-volt storage batteries.

Goliath's hull was a single mild-steel casting divided into three compartments and mounted between the two tracks with just under six inches of ground clearance. The forward compartment held about 160 pounds of amatol-like *Sprendladung* (explosives) divided into two triangular and four rectangular blocks.

The hull's center compartment held relay and control assemblies. In the Goliath 302, these included a small metal box containing a series of six relays and a small 4.5-volt battery.

When activated, the relays allowed power to run from the large storage batteries to the electric motors. At full tilt, Goliath could travel about one mile at just over six miles per hour.

Goliath's rear compartment contained a wire spool that held 2,000 feet of triple-strand wire. With the exception of this rear wire compartment, the hull was sealed with rubber gaskets that would allow Goliath to operate under shallow water for brief periods. The rather heavy wire ran through a snag-preventing friction clutch and out the rear of the vehicle to the operator's control box. Each of the three wires (one each red, blue and black) was attached to a post atop the box that contained nine 4.5-volt dry-cell batteries. The operator maneuvered Goliath by two switches that controlled movement left or right (straight with

Continued on page 61

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For the U.S. Marines in the Pacific, Navaho "code-talkers" were a secret communications weapon.

By Richard N. Armstrong

In the gloom of the Pacific island jungle, a radio transmission pierced the night air.

"Tiger, this is King. Over."

"This is Tiger," crackled the response.

"This is King. Arizona, I say again, Arizona. Over."

"Roger, King. Wait."

The young Marine radioman jumped up from his bunker and ran. He dashed 50 yards to a nearby dugout and called to a dark figure within, "One of your messages, hurry."

A short, stocky figure emerged quickly from the dugout, and together the two crouched figures hurried back to the radio bunker. "King, this is Tiger. Send your message."

Then over the radio came a bizarre succession of guttural, nasal, tongue-twisting sounds. Huddled over the radio, the dark-skinned, black-haired Navaho Indian received a classified message from Battalion. In a coded message, Battalion informed regimental personnel of a trouble spot without tipping off the Japanese. In almost every major Pacific operation during World War II, U.S. Marine Corps Navaho signalmen transmitted important messages, usually identified as an Arizona or New Mexico message, in unbreakable codes. Primitive tongues were a key to modern communication.

A patrol moves out on New Britain, communicating with the secret Navaho language. Radio conditions sometimes forced the Indians to pass messages by runner (a hazardous job).

In the mid-19th century, the Morse telegraph came into use, soon followed by the telephone. The telephone offered a convenient and rapid way to communicate, but a single wiretap could disclose the conversation. The subsequent advent of the radiotelephone only increased the security problem, since the radiated transmissions were even easier to intercept. Indeed, the birth of the radio-telephone was also the moment of creation for radio-intercept intelligence.

Every nation learned the value of radio-signal intercepts soon after World War I broke out. In fact, the Germans were one of the first to exploit the interception of enemy radio traffic.

To commanders of the American Expeditionary Forces, German mastery at listening in on radio transmissions was a major problem. As Colonel A.W. Bloor, Commander of the 142nd Infantry Regiment, 36th Division, noted in an after-action report, "A rumor was out that our Division had given false coordinates to our supply dump, and that in 30 minutes the enemy's shells were falling on the point." The Americans were sure the Germans heard and knew too much. It was necessary to code every message of importance, but the coding and decoding took valuable time that negated the advantage of radios.

Interestingly, Bloor's 142nd Infantry included a company of American Indians who spoke 26 different languages or dialects. With those little-known languages at work, reasoned the regimental commander, came a relatively risk-free chance that the Germans could not translate their speech. Additionally, the Regiment was fortunate to have two Indian officers who spoke several of the languages. They could comfortably manage and work the Indian soldiers with good results. In short order, then, a number of Choctaw Indians were placed in each of the regimental and battalion command posts.

The first use of the Indians, according to Regimental Commander Bloor, came in the "delicate withdrawal of two companies of the 2nd Battalion from Chufilly to Chardeny on the night of October 26th [1918]." The movement was completed without mishap—the Americans drew no German artillery fire. The Choctaw Indians then were used repeatedly on the 27th in preparation for the assault on an objective called Forest Farm. The operation's complete surprise served as solid evidence that the Germans could not decipher the messages sent in the Indian tongue.

After the withdrawal of the regiment from the frontline, eight of the Choctaw Indians were detailed for training in transmitting messages, even though initial experience found that the Indian vocabulary of military terms was limited.

Another army, the Canadian forces fighting against Germany during World War I, also tried to use Indians to secure their radio transmissions. But the Canadians were discouraged by the lack of vocabulary for military terms.

The American Army, however, stayed with the Indians and improvised ways to work out the vocabulary problem. Since a verbatim translation was not possible, a simple method of substitution seemed to work best. Indian for "Big Gun" was used to indicate artillery. "Little gun shoot fast" substituted for the ever-present machine gun, and battalion numbers were indicated by one, two or three grains of corn.

After WW I, the U.S. Army did not pursue the use of Indians to secure tactical radio transmissions. In fact, even dur-

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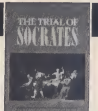

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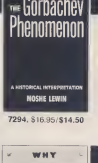

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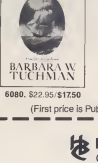

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Field Marshal Model earned his nickname as the Führer's "fireman"—to the bitter end.

By David Lippman

With unbending devotion to duty and obedience to orders, a monocle screwed firmly in place over his right eye, Walther Model was the archetype of Hollywood's idea of the Prussian general. There were differences, though. For one, unlike the movie generals, he was extremely capable.

His motto was, "I love him who craves the impossible." Time and again, he achieved that impossible for the Third Reich, saving whole German Army groups from disaster. A skilled improviser, he possibly was Germany's most underrated general.

In late 1943, Hitler promoted this Prussian with the mocking little smile to field marshal. As Hitler's "fireman," he was sent to replace the great Field Marshal Erich von Manstein in Russia as Commander, Army Group South.

Model took over an army group in retreat toward Carpathia and held the tide. In June 1944, the Soviets in Byelorussia launched a massive assault aimed at Warsaw. Some 26 German divisions were destroyed before Model was dispatched to command Army Group Center. By using a flexible defense with constant counterattacks (including blowing up the entire Polish town of Kovel), Model kept the Soviets out of Warsaw.

Hitler then sent his diminutive fireman to France in August as *Oberbefehlshaber* (OB) West and Commander, Army Group B, in place of the no-longer favored Marshal Gunther von Kluge. Model's impossible job this time was to shore up the collapsing Western Front. To take over this prestigious command, Hitler had promoted Model over the heads of a score of far more senior officers replete with high social rank. After all, Walther Model was the son of a mere schoolteacher.

Looking the very model *of a Nazi Prussian General, Walther Model swore that "A German field marshal does not surrender"—words by which he lived, fought and died.*

The future field marshal was born on January 24, 1891, in Genthin, near Magdeburg. Model joined the German Army in 1909, after which the short, stocky Prussian rose steadily through World War I and after. By the outbreak of World War II, he was Chief of Staff for the Fourth Army Corps for the invasion of Poland.

He continued to move up—Chief of Staff, 16th Army in France; command of Third Panzer Division in Russia, and head of Ninth Army in early 1942. Model successfully defended repeated Soviet attacks and led the Ninth Army until late 1943. His early career was similar to those of his Prussian predecessors, all the way back to Scharnhorst and Gneisenau. But Model also was an ardent Nazi.

In February 1943, the commander of the German forces surrounded at Stalingrad, General Friedrich von Paulus, was promoted to field marshal by Hitler, in a futile gesture aimed at preventing Paulus from surrendering his command. Just 24 hours after the promotion, Paulus surrendered. A furious Model declared to his staff: "A German field marshal does not surrender. It is not possible." Those words would come back to haunt and dominate his thinking.

In October of that year, the Soviets began a major offensive to relieve the siege of Leningrad. With the German Army Group North wavering under the Soviet pressure, Model took over the army group, disengaged from the Russians and successfully retreated to the Baltic States.

By now Model enjoyed a tremendous reputation as a devoted Nazi, a man of unbending will and great personal courage. But he was also tempestuous and given to quick, often rash decisions. An Allied intelligence report said of him, "He is known to be personally devoted to Hitler and likes nothing better than being asked to do the impossible."

After the news he would replace Kluge in France in 1944, Model arrived in Paris in August to find chaos. His first order was to General Dietrich von Choltitz, commander of Paris, to prepare to blow up the city. Choltitz was unwilling to take such a horrifying step and pleaded for time. Model agreed, but said: "Believe me, Choltitz, what took us 40 minutes in Kovel [Poland] will take us 40 hours in Paris. But when we are finished, this city will be destroyed." Choltitz, aware of his new superior's quick temper, did not reply.

In the end, Model's plan to destroy Paris was thwarted. Rather than go down in history as the man who set Paris ablaze, Choltitz sent a personal message

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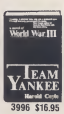

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to the advancing Allies, saying that if they entered the city he would surrender after a brief fight to maintain his honor. The French liberated Paris before Walther Model could force Choltitz to begin demolitions.

Model was furious—he ordered Choltitz court-martialed in absentia. He also was under great strain, exhausted by the double job of OB West and Army Group B. On the day von Choltitz put out his feelers to the Allies, typically, Model was away from his command post, trying to restore order at the collapsing front.

The Americans and British now raced across France, pursuing fleeing remnants of the German army. After flying all over the front to restore order by day, Model sat in his new headquarters bunker at Liege night after night, unshaven, unable to move.

Walther Model believed in personal command—he rose every morning at 5 o'clock. He flew all over the front in his light plane to assess the tactical situation personally, rather than rely upon reports from others. He often said, "He who cannot invent anything, cannot organize anything, cannot shape his own surroundings according to his whole being, never knows any urge of necessity and, for a lack of imagination and energy, can never lay claim to leadership."

Model drove his officers unmercifully. He was quite aware of what he described as his "never-failing demonic genius, fully conscious of his own creative power of mastering anything." The officers couldn't take his vitriolic temper—often operations officer Colonel Gunther Reichhelm had to go to the front lines personally to smooth the ruffled feelings of Model's officers. Some officers were so distraught from Model's tongue-lashing and court-martial threats that they contemplated suicide. Yet the ordinary soldiers trusted and respected Model.

His stern sense of discipline kept him distant from fellow officers. He had few friends, yet behind the monocle and the field marshal's shoulder boards was a man with a strong sense of family, domesticity and love of nature. And, by September 1944, Walther Model was a very tired field marshal.

The fatigue showed. His operations chief, General Bodo Zimmerman, said of Model after the war: "Model was a thoroughly capable soldier, but often demanded too much and that too quickly," hence, "losing sight of what was practically possible." He had a tendency to "dissipate his forces," and "staff work suffered under his too-frequent absences and erratic, inconsistent demands."

On September 4, Model issued an emotional plea to his retreating troops: "I appeal to your honor as soldiers. We have lost a battle, but I assure you of this: We will win this war! Whatever has happened, never lose your faith in the future of Germany." The same order commanded his troops to repudiate rumors and not to destroy equipment and installations unless necessary. At the same time, he cut orders to General Gustav von Zangen's 15th Army to evacuate the Pas de Calais and Zeeland by sea to the Netherlands.

He also dispatched the 2nd SS Panzer Corps to Arnhem in the Netherlands to rest and refit. Shortly after this flurry of orders, word came from Berlin that Model had been relieved as OB West by the West's former commander, Field Marshal Gerd von Rundstedt. Model retained his Army Groub B. The angry, ambitious Model took the news calmly. He was all too aware of his shortcomings as an administrator.

Rundstedt knew them, too. He once disdainfully called Model "a good regimental sergeant-major." Model himself had moved his Army Group's headquarters to Arnhem on September 15, 1944.

Precisely two days later, as Model sat down to lunch with his staff, 7,000 British paratroopers landed in a field less than two miles from Model's headquar-

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ters. As he headed out of the dining room to collect his belongings, he shouted, "They're after me and this headquarters!" Model leaped into his staff car, leaving behind his linens, cap, pistol, belt and celluloid war maps, and sped off east away from Arnhem and the British airborne troops.

But the British weren't after him—they were the lead elements of Operation MARKET-GARDEN, Field Marshal Sir Bernard Montgomery's ill-fated attempt to cross the Rhine and end the war with a massive airborne assault combined with the punch of an armored column.

The battle that ensued was Model's finest hour—a battle that depended on improvisation, speed and skillful counterattacks. Several times, he cut the British corridor to Arnhem, and he destroyed a British airborne division. His last-minute orders to 2nd SS Panzer Corps and 15th Army placed those two powerful forces in a perfect position to defeat the combined British-American offensive.

Yet he nearly lost the battle. When a complete set of Allied plans for the operation fell into Model's hands, he dismissed them as fakes. Then he refused to allow his subordinates to destroy the bridges at Arnhem and at Nijmegen, 10 miles away. Ultimately, the Americans and British took the Nijmegen bridge intact, though at great cost.

But Model had stopped Montgomery's attack, and he now rose further in Hitler's estimation. The *Führer* had a big plan for Model. It was called, "*Wacht am Rhein*," the massive offensive in the Ardennes. But when Model read it, he said, "This damned thing hasn't got a leg to stand on!"

Model's subordinate, *General der Panzertruppen* Baron Hasso von Manteuffel, who was to lead the 5th Panzer Army, agreed. Manteuffel, an aristocratic baron, and Model, the son of a schoolteacher and music master, developed an alternate offensive plan that was a straightforward spoiling thrust to slow down the Allied offensive. The *Führer* rejected it. He wanted the big offensive.

Model obeyed his *Führer*—after all, Hitler had pointed out Model to other German generals as "*mein bester Feldmarschall*," and his soldier's honor would not allow him to disobey orders. Whatever he thought of Hitler's absurd plans, he did his best to carry them out. Model led the offensive, although German propaganda gave top billing to Model's superior, von Rundstedt. Ten panzer divisions launched Hitler's last blitzkrieg—the Battle of the Bulge. For a few days, the offensive appeared successful. But the Americans blocked the drive at St. Vith and Bastogne. Model personally had to act as a traffic cop to unsnarl his jammed

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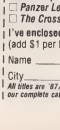

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columns at a St. Vith crossroads.

On January 14, with his panzers being chewed up by American and British airpower in the Ardennes, Model recommended to Hitler that the German army withdraw to the Rhine. Hitler vetoed that—but later approved a limited withdrawal to the West Wall.

After the Battle of the Bulge, Model conducted a skillful retreat to the Rhine. But it was clear that the stocky little field marshal was worn out. General von Zangen, commanding the 15th Army, requested permission to deploy a panzer division to guard the Ludendorff railway bridge over the Rhine at Remagen. Model stared at his map, saw that Remagen was surrounded by hills and snorted, "Only a fool would cross the Rhine at such a spot." He forbade von Zangen from reinforcing the bridge. A few days later, the U.S. 9th Armored division captured the bridge, which then became the springboard for the American drive across the Rhine and Reich.

Next, as more than a million GIs surrounded his 325,000-man Army Group B in the Ruhr, he vacillated while the jaws of an American envelopement closed upon him. The *Führer,* out of touch with reality, ordered Model to hold the Ruhr as a besieged fortress.

Even with fanatical SS units, powerful 88mm guns and skilled paratroopers entrenched in grimy industrial cities, Model couldn't hold off the full power of two U.S. armies and their airpower, and he knew it. He left the battle to his subordinates, didn't visit the front, or even launch counterattacks. Certainly he was aware that the Russians had a war crimes dossier on him—virtually a price on his head.

Finally he stirred—he ordered General Fritz Bayerlein to break out with his 53rd Corps. But Bayerlein's corps had already been destroyed. He ignored Model's order and instead surrendered.

A few days later, Hitler sent Model a radio message that help was on the way, adding: "Troops in the Ruhr are ordered to gather in small groups and hold out as long as possible. Groups which cannot hold their ground must withdraw, reorganize and harass the enemy's rear." The order was ridiculous—Model ignored it. And now came a dramatic suggestion from Chief of Staff General Carl Wegener to ask Hitler to end the war. Surely Hitler would listen to his favorite field marshal.

Model refused. "I could hardly make such a proposal." A German field marshal could not surrender. Model had said so himself of von Paulus at Stalingrad—a field marshal who had surrendered.

The same day, Model received a message from Maj. Gen. Matthew Ridgway, commanding the American 18th Airborne Corps, asking Model to do just that. Ridgway's message said that further resistance was useless and would lead to needless slaughter. Model's feelings: Even discussing surrender violated his sense of honor as a German officer.

Ridgway tried again; he composed a note which cited Robert E. Lee at Appomattox (80 years beforehand to the month), the need for Germany to save its cities and people for the future, and honorable capitulation.

Model wouldn't even read the note. On April 16, 1945, the Russians attacked Berlin. When Model heard the news, he said: "This is the end. It's the smash-up."

Next day, Model found the answer to the riddle of how to surrender his command without violating his soldier's honor. He discharged all his Hitler Youth and overaged *Volkssturm.* Then he gave his remaining men three choices: They could surrender, break out of the pocket individually, or go home. Either way, at midnight, they were released from his command.

After writing out the order, Model said to a staff officer: "Have we done everything to justify our actions in the light of history? What is there left to a commander in defeat?" He paused and answered his own question. "In ancient times, they took poison."

After Model's order reached the troops, most of his Army Group B surrendered. American troops broke all the records for captured forces—bagging nearly half a million men. The haul included former Reich Chancellor Franz von Papen, arms magnate Alfred Krupp, 29 generals and one admiral. Army Group B ceased to exist.

American General Omar Bradley said he would give a medal to the man who brought in "this chilly Prussian," but the Americans only found Model's Mercedes-Benz. The field marshal himself was wandering around the ruins of the Ruhr, accompanied by a few loyal staff officers. Some begged him to surrender. But Model replied: "I simply cannot do it. The Russians have branded me a war criminal, and the Americans would be sure to turn me over to them for hanging."

On April 21 he was alone, except for his intelligence chief. "My hour has come," Model said. "Follow me."

The intelligence officer thought Model was going to give up. But Model instead led the officer to the deepest part of the forest near the industrial town of Duisburg. There he drew his pistol and said: "Anything's better than falling into Russian hands. You will bury me here."

One pistol shot did it. The Marshal's aim was true. There is no marker to record where he fell. □

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Scene from the "unknown war": Indian machine guns cover advancing comrades at Pagoda Hill, Rangoon. To the north, an even more forgotten battle took place, involving American troops in Burma.

Marauders' Trail of Fire

"Vinegar Joe" Stilwell and Merrill's Marauders combined forces for the really tough, supply-starved campaign against the Japanese in forbidding north Burma—their goal a tongue-twister town named Myitkyina.

By John F. Wukovits

The exhausted line of haggard troops had been on the march for two months in miserable jungle terrain, and still their final objective was not in sight. They traversed jagged mountain paths; razor-sharp elephant grass slashed their faces; swarms of black flies and vicious stinging insects inflicted a gruesome assortment of strange, sometimes deadly, jungle maladies. Powerful storms dumped as much as 15 inches of rain a day. Certainly they would have agreed with British Prime Minister Winston Churchill's depiction of their fighting ground as "the most forbidding fighting country imaginable," and with his comment, "One could not choose a worse place for fighting the Japanese." Yet fight here they did, producing what *Time* magazine called "one of the epic infantry advances of the war."

Allied forces, commanded by American General Joseph "Vinegar Joe" Stilwell and spearheaded by a motley assortment of volunteers known as Merrill's Marauders, had come to meet the Japanese in the steamy jungles of northern Burma.

Stilwell had dreamed of returning to northern Burma since 1942, when victorious Japanese troops forced him to lead a column of retreating Allied soldiers in an inglorious 140-mile walk out of Burma to India. When he arrived in New Delhi, Stilwell told reporters: "We got a hell of a beating. We got run out of Burma and it is humiliating as hell. I think we ought to find out what caused it, go back and retake it."

Easy words to say, but in the labyrinthian structure that was the China-Burma-India (CBI) Theater, very difficult to do as the British, American and Chinese governments clashed over a guiding military strategy. Stilwell often vented his frustration in his diary. ("It is no fun bucking two nationalities to get at the Japs."). He believed the English, whom he referred to as "the Limeys," were "not interested in the war in the Pacific," and he considered Chinese leader Chiang Kai-shek, whom he labeled "Peanut," as nothing more than "a grasping, bigoted, ungrateful little rattlesnake" who led a gang of thieves willing to take American military equipment while letting "someone else do the fighting."

Stilwell also had to battle for supplies in the low-priority CBI. General George Marshall, U.S. Army Chief of Staff, bluntly stated that Europe and the Pacific would receive first call, while "General Stilwell could have only what was left." After Russian leader Joseph Stalin promised at Tehran to enter the war against Japan once Germany was defeated, Franklin Roosevelt and Winston Churchill put even less emphasis on Southeast Asia. In a world replete with strife, CBI was becoming the forgotten war.

Nevertheless, an Allied offensive move into northern Burma was approved for late 1943. Japan had closed off land-supply routes to China, forcing the Allies to rely upon the dangerous air route over the Himalayan Mountains called "the Hump." A successful offensive could open a supply line from depots in India, through Burma, into China. Stilwell chose Myitkyina as his objective. Myitkyina was an important communications center on the Irrawaddy River hooked up with a railroad line to southern Burma. Control of the city and its airfield would enable the Allies to establish a fighter base to protect supply lines into China.

Stilwell devised a three-pronged attack. His own Chinese troops (joined later by Merrill's Marauders) based in India would cross into Burma and attack down the Hukawng and Mogaung Valleys, with Myitkyina as their ultimate goal. Supporting them would be British guerrilla troops under the leadership of the eccentric Brigadier Orde Wingate. His force, called Chindits, would land by parachute in the Japanese rear to cut communication lines and harass the enemy in any possible way. At the same time, General William Slim would launch a British offensive in Burma to prevent a Japanese attack on Stilwell's rear.

Stilwell's strategy was simple. Each time his troops met the Japanese, part of his force would engage the enemy frontally

TOP: Considered the most important airbase in northern Burma, Myitkyina was the first objective for U.S. Army forces on the Asian mainland. Just reaching it was a test of human endurance. MIDDLE: Riding American-supplied M-4 Shermans crudely painted with tiger markings, Chinese tankers move to assist Stilwell in northern Burma. ABOVE: Men of the 5307th Composite Unit (Provisional) cross a stream in northern Burma. Largely made up of misfits for a suicide mission, the "Marauders" emerged as one of the elite units of the U.S. Army.

while a main attack skirted through the jungle and hit the left flank. A smaller unit would penetrate deeper behind the Japanese to set up a trap in their rear.

The fighting would have to be done in some of the worst conditions imaginable. Steep, jungle-clad mountains dropped precipitously to swift-flowing rivers. Dense jungle often required an entire day's effort to hack through half a mile of bamboo and vine growth. Wild animals were a constant threat, ranging from leeches and the six-inch krait, a snake whose potent venom could kill in minutes, to 20-foot pythons. The terrain was so forbidding that most of the time Stilwell's forces would have to rely upon air drops for their supplies.

In addition, Stilwell was going up against the potent Japanese 18th Division, veterans of Singapore and the first Burma campaign and led by a superb commander, General Shinichi Tanaka. Stilwell's own commander, Admiral Lord Louis Mountbatten, held grave doubts whether Stilwell could successfully approach Myitkyina through the jungles. Stilwell recognized the enormity of the task before him and told associates, "We have to go in through a rat hole and dig the hole as we go."

Opening moves began in late October 1943, when the Chinese 38th Division advanced into Burma from India. Traveling along the same trails used by Stilwell in his epic retreat the year before, the Chinese came upon gruesome reminders—thousands of skeletons and rusted hulks of abandoned vehicles—along both sides of the trail.

The Chinese troops were soon slowed by stiff Japanese opposition near the villages of Sharaw Ga and Yupbang Ga. Stilwell traveled to the front to urge on the slow-moving Chinese troops. He often rose at dawn and, accompanied by his aide, a bodyguard, and a few hardy correspondents, hiked three or four difficult miles to the Chinese command post. There he quietly stood around, making the Chinese officers uncomfortable with his presence. The Japanese were aware of his frequent visits to the front, and broadcast from Rangoon their determination to capture him. As no Chinese officer wanted to be responsible for Stilwell's harm or capture, they soon issued attack orders, whereupon Stilwell trekked back. The Chinese finally forced the Japanese out of Yupbang Ga, but an irate Stilwell wondered in his diary, "How long would they have sat on their asses here?"

Stilwell hoped to trap Tanaka's force before the monsoon rains made operations near impossible, but the Chinese troops had been too slow in pinning down the elusive Japanese. At this point Stilwell decided to call in the one American force under his command—the 5307th Composite Unit (Provisional), known as GALAHAD to Allied military leaders but more popularly known as Merrill's Marauders.

The first American unit to reach the Asian mainland was a varied collection of volunteers, hardened veterans of Guadalcanal and New Guinea, and misfits, some of whom joined simply to get out of the guardhouse or other dumping grounds for disciplinary problems. When Lieutenant Charlton Ogburn first glanced at some of the men he would lead into battle, he later wrote, "The word 'pirates' crossed my mind. An assemblage of less tractable-looking soldiers I had never seen . . . I felt much like a Sunday-school teacher in a reformatory."

The 3,000 men were gathered for a "particularly hazardous and self-sacrificing operation" behind Japanese lines. According to War Department projections, the mission would inflict 85 percent casualties through sickness and combat and require up to three months of recuperation before the survivors could return to combat. Nicknamed Merrill's Marauders by *Time-Life* reporter James Sheply after their commanding officer, Brig. Gen. Frank Merrill, who had walked out of Burma with Stilwell in 1942, the hybrid collection of soldiers would prove to be one of the war's best American units.

The Marauders originally trained with British Commander

On March 1, 1944, Merrill's Marauders had their first major clash with General Tanaka's 18th Division. During a lull in the savage fighting, Marauders take advantage of the cover afforded by a captured enemy defensive position. Note Japanese helmet at left.

Orde Wingate, a recognized master of long-range penetration tactics, but they came under Stilwell's command for his Burma offensive. Divided into three battalions upon their arrival in India, the Marauders set out on an exhausting 140-mile march over the steep Naga Hills to Stilwell's headquarters. After completing the march, the worn-out Marauders were ordered to shave and clean up for an inspection by Stilwell, but he then failed to appear. This left a bitter taste among men hoping for recognition by their leader. From here on, relations between the Marauders and Stilwell deteriorated.

Stilwell, nonetheless, had a plan to trap Tanaka's 18th Division, which had given his Chinese troops so many problems. While the Chinese engaged Tanaka's forces near Maingkwan, the Marauders were to sweep around the east flank and establish a roadblock at the village of Walawbum in the southern end of the Hukawng Valley.

To help the Marauders find their way through the nearly impenetrable jungles, Kachin Rangers were called in. Local inhabitants trained by American and British agents to fight the Japanese behind their lines, these ferocious stalkers knew every rock, plant and tree of the jungle. They could tell by looking at certain leaves that wilted upon human contact whether a Japanese patrol was near, and they despised the conquering Japanese.

The Marauders moved behind Tanaka in late February 1944. The Japanese commander, though, knowing his Chinese foe would advance in a slow, methodical manner, launched his all-out offensive against the Marauders. On March 1, the first battle between Americans and Japanese on the Asian mainland commenced when the first in a series of bayonet charges hit the American lines. Successive attacks were repulsed by the entrenched Marauders, who matched their determined foe in ferocity. One battalion beat off repeated Japanese attacks for 36 straight hours without food or water. The front lines at Walawbum were so close that Americans and Japanese wandered into each other's lines in the thick foliage. Early one morning a group of seven Japanese carrying a wounded officer on a litter strolled into the 3rd Battalion's command post and was wiped out by machine-gun fire. A Japanese machine-gunner was discovered less than 100 yards from General Merrill's command post.

When the Chinese forces were able to move more quickly than expected, Tanaka pulled south through a secret trail recently hacked out of the jungle only after a five-day battle that cost the Americans eight dead and 37 wounded—but 800 of Tanaka's men were cut down in the process. Although Tanaka managed to escape to fight another day, Walawbum was the first victory in Burma for Stilwell; it

TOP: Overflown by a P-40, Chinese troops march down the Ledo Road in October 1943. Stilwell accused them of lethargy in the field, personally seeing to it that they moved faster in support of his offensive. MIDDLE: Nearing the objective, a .30-caliber machine-gun crew opens up near Myitkyina. ABOVE: Lieutenant General Joseph Stilwell (right) and Brigadier General Frank Merrill (2nd from left) discuss plans to capture the vital airfield at Myitkyina.

also was one that gave him control of the Hukawng Valley.

In the middle of March, Stilwell sent the Marauders on two more sweeps through the mountains in hopes of trapping Tanaka. The 1st Battalion was ordered to set up a block near Shaduzup, while the 2nd and 3rd Battalions hiked farther east to close in on the Japanese lower down in the Mogaung Valley.

The 1st Battalion had the shorter route, but it was one rife with peril. The narrow trail upon which the Americans laboriously inched forward skirted the Jambu Bum Mountains. They were never far from the enemy, once battling eight different Japanese patrols in one-and-a-half miles. When their commander decided to move off the trail to avoid further contact with the enemy, conditions turned even worse.

"The days of that tortuous march were to remain forever living in my mind," wrote Ogburn of the two-week hike to Shaduzup. Some of the hills were so steep that mules carrying equipment were unable to reach the top. Thick jungle bamboo dictated such a halting pace that the Marauders covered only 30 miles in those 14 days. Platoons took turns whacking away at "the towering, tangled, resistant vegetation that buried hillsides, valleys and ridges together." The bamboo quickly dulled machete blades and was so interwoven at the top that it had to be cut twice—once at ground level and again at a height above the mules.

In addition to Japanese ambushes as a part of the strain, simple hunger was a constant problem; "our other enemy," wrote Ogburn. Food had to be dropped by air, a feat made more difficult by the immense jungle. Thus air drops were sporadic and depended upon the Marauders locating an adequate clearing.

Enveloping everything the battalion did were leeches and thousands of jungle insects, carrying diseases so lethal they could kill a man in a few hours. Dumdum flies caused severe itching from their bites by day, while tiny buffalo flies poured through netting at night to plague the weary men. At one point, casualties among the Marauders from illness outnumbered casualties from combat by a ratio of 14-1.

When the Marauders emerged from the jungle after their two-week ordeal, they found a Japanese force encamped at Shaduzup. The battalion waited quietly through the night until morning fires were seen, at which time a fierce bayonet charge chased the enemy away. A roadblock was set up and held until relief came from the Chinese 38th Division.

In the meantime, the 2nd and 3rd Marauder battalions moved down the Tanai and Hkuma Valleys to establish their own roadblock at Inkangahtawng, but a series of enemy attacks forced them to abandon the effort.

While the Marauders tried to capture Tanaka by circling around his flank, Stilwell led his Chinese down the Jambu Bum ridge to meet the Japanese head on. Even though Stilwell's superiors urged him to spend more time at headquarters in New Delhi, he preferred to be at the front. Sleeping on a cot under fly-covered blankets and using a box for a desk, Stilwell tried to inspire the Chinese to move more forcefully. The jungle was so formidable even the hardened Stilwell complained to his diary: "Up the river, over the hogback. Slip, struggle, curse and tumble."

A captured Japanese map showed Tanaka was swinging his forces behind Stilwell, so Stilwell ordered the Marauders, already weary from their own grueling marches, to head back into the jungle to counter Tanaka.

After another difficult two-day hike, the 2nd and 3rd Battalions occupied hilltop positions 400 yards long by 100-250 yards wide near the village of Nhpum Ga. The tired men, some with nerves coming unstrung, stared numbly at the jungle, waiting for what they knew would be a ferocious Japanese onslaught. For one solid week, Tanaka blasted the Marauders with artillery and mortar fire. Some frazzled Marauders screamed with every burst. One large soldier, his entire body

quivering uncontrollably, stumbled to an aid station and, with tears streaming down his face, yelled to the officer: "Major, I'm not afraid, damn it! I tell you, I'm not afraid. I just can't help shaking."

Tanaka's men seized the water hole supplying the Marauders early in the fighting, forcing them to use stagnant water lying on the ground; its foul taste was so repellent they could hardly force it down. Under the continual shelling, more than 100 bloated mule carcasses and 200 decomposing Japanese bodies lay in the water draining toward the Marauders.

Whenever the artillery stopped, Japanese bayonet assaults hammered the Marauders. At one time, Merrill's men repulsed 16 straight banzai charges without rest. Japanese and American lines were again so close that one Japanese soldier was shot through the head when he mistakenly crawled into a Marauder foxhole.

Conditions might have been worse had it not been for Sergeant Roy Matsumoto, a Japanese-American. Each night he crawled near the Japanese camp to learn what the enemy planned the following morning. One time he overheard that an attack would be launched at a particular point in the Marauder line. Marauders booby-trapped their foxholes, then withdrew to higher ground. When the Japanese appeared, blistering gunfire shredded them. More Japanese died when Matsumoto, whose mother still lived in Hiroshima, yelled in Japanese, "Charge, Charge!"

During the fighting at Nhpum Ga, Merrill was stricken by a heart attack and was succeeded by Lt. Col. Charles Hunter, an expert in jungle warfare.

On April 4, the 3rd Battalion launched an attack that finally forced the Japanese to retreat. The 3rd was soon joined by the 1st Battalion after its men were marched through such impenetrable jungle it was like walking with your eyes closed. Each man had to hang a luminescent compass on the man in front to avoid losing his way.

Tanaka pulled back with the 1st's arrival, but the entire Marauder force was now so battle-weary it was practically destroyed as a fighting unit. Instead of the needed rest which had earlier been promised to them, however, Stilwell had still other plans for the Marauders.

Ninety miles away, on the other side of the treacherous Kumon Range, was Myitkyina. Stilwell intended to use his Chinese forces to keep the enemy busy while the Marauders embarked on yet another eastern sweep, this time to capture the Myitkyina airfield. The exhausted Marauders could scarcely believe the new orders, which instead of sending them to a rest camp in India, returned them to the backbreaking jungles. Ogburn for one, realized Myitkyina was important, but believed he and the other Marauders were so battered they would be unable to carry out the attack. "Most of us believed the Northern Combat Area Command was either ignorant of the shape we were in, or indifferent to it—or out of its mind," he later would write.

Stilwell was troubled, too, but the Marauders were the only soldiers in his command he could rely upon. Moreover, since he had been prodding his Chinese troops to be more aggressive, he could not appear to be easing up on his American troops. Stilwell promised that once the airstrip was taken, the Marauders would be immediately evacuated and, in Ogburn's words, "given a party to cause taxpayers a shudder."

This assurance helped to fortify the Marauders for what they knew would be another arduous mission, but their morale had plummeted. Only half of their original number remained even marginally fit for combat. Men who began the mission lean and trained for jungle fighting had lost an average of 20 pounds. Stilwell rarely visited them as he did his Chinese troops, and none received promotions or decorations in spite of the rigorous fighting. The Marauders felt isolated, and Stilwell's name became "as a red flag to a bull."

INGLORIOUS END FOR THE 5307th

Deplorable as conditions had been back in Burma, they were far from ideal once the freshly relieved Marauders arrived at their "rest camp" in Margherita, India. Marauder Charlton Ogburn called it a "pesthole" and wrote that it "bore no evidence of preparation for the reception of battle-worn men."

The camp was little more than a pasture containing collapsing buildings with dirt floors. The eagerly awaited shower-baths turned out to be "a couple of old oil drums and some lengths of rusty pipe kicked off the back of a truck one morning."

Ogburn and his compatriots were angered that battle-tested soldiers lived in squalor while rear-echelon officers, "who had never spent a night away from their comfortable quarters and concrete shower stalls," lived in relative luxury. Some of his fellow Marauders vented their displeasure by tearing apart the camp, which soon became "little better than a shambles." Gunfire sounded through the night, and one's personal belongings could not be left safely anywhere. Nurses were terrified of drunken soldiers who squandered their pay on beer or "Bull-Fight Brandy," a potent local liquor containing marijuana. The absence of high-ranking officers compounded the situation, making the camp so unsafe that Ogburn wrote, "The policy of the local MPs seemed to be to keep out of our camp, and I could not say I blamed them." The MPs even refused to enter hospital wards at nurses' requests to restore order.

The Marauders were poorly rewarded at the end of their agonizing trek to Myitkyina.

The MPs were dealing with men who were at the end of their rope, who felt abandoned by superiors and who knew they had very little to lose. Since arrest and a guardhouse stint were preferable to another Burma tour or to their rest camp, the authorities had no real threat to hold over their heads. Discipline was nonexistent, allowing the worst qualities of the worst men—and the 5307th had its share of them—to emerge. "In the rest camp, there were men living like bands of pirates—still sick, most of them—gambling and pitching empty beer cans out the windows; in some cases, junior officers were gambling and getting drunk with them."

The 5307th would never again fight as a unit. Most of the survivors were transferred to other active duty, while still a few more were incorporated into a new regiment which was formed to help succeed the Marauders. The 5307th simply ceased to exist, on War Department orders, without "even a final formation."

Once the Marauders crossed the Kumon Range, they found Myitkyina poorly defended by 1,000 Japanese who never expected anyone to penetrate the jungle. Here, a Marauder takes a rare break; but his trials are still far from over. Counterattacking Japanese reinforcements will still have to be contended with before Myitkyina can be secured.

Fourteen hundred Marauders, once again led by General Merrill (who had checked himself out of the hospital for the latest mission), headed for the Kumon Range on April 28, supported by two Chinese regiments and 300 Kachin guerrillas. The monsoon rains began three days later, making even the redoubtable Kachins dubious about crossing the steep Kumon barrier. Stilwell lay awake nights cursing the rain. "Every drop hurt me," he wrote. To Mrs. Stilwell came words of agony in a torrent almost like the very monsoon rains he damned: "Rain, rain, rain, mud, mud, mud, typhus, malaria, dysentery, exhaustion, rotting feet, body sores . . . "

The Kumon Range proved indeed formidable. Some heights soared to 9,000 feet. The pass used by the Marauders wound up to 6,100 feet, every foot covered by the oppressive jungle. "We had fought with mountains before," wrote Ogburn, "but none like those of the Kumon Range under the monsoon rains." Trails were so slippery that mules simply sat down and slid 50 yards at a time. Whenever a mule was lost, its supplies had to be either apportioned to the remaining mules or left behind. In one sad day, the 3rd Battalion lost 20 mules, forcing the men to abandon 4,000 pounds of equipment.

After slipping and stumbling their way down the far side of the Kumon Range, the Marauders wearily moved into position to attack Myitkyina's airfield. Myitkyina was only defended by 1,000 Japanese, since the jungle was believed too impenetrable to be used as an avenue of attack. On May 17, an assault team led by Hunter surprised a small Japanese contingent and seized the airstrip.

Later in the day, two Chinese battalions advanced on the town of Myitkyina from the west and the south. They were cautiously advancing toward the center of town when a few enemy snipers began firing. In the resulting confusion, both Chinese battalions started shooting at each other, inexplicably continuing until they had to be withdrawn. When another assault the following day resulted in similar carnage, Stilwell pulled the Chinese troops out of the line.

Tanaka quickly rushed 2,500 reinforcements to Myitkyina and strengthened the town's fortifications. Stilwell planned to bolster his forces at the airstrip, but instead of the troops and needed supplies he was promised, an antiaircraft battery and a group of engineers were flown in. What appeared to be a quick victory in an exasperating campaign was fast disintegrating. Stilwell had little choice but to order the Marauders into the fray. Once again, their promised relief was delayed.

By now, the Marauders were a shell of their former selves. One company commander, gazing at his troops as they shuffled across the airstrip, was saddened to note: "Hardly a man could walk normally for fatigue, sores and skin diseases." Eighty percent of the men suffered from dysentery. Many simply cut holes in the back of their trousers so they could relieve themselves quickly. Almost 100 men were evacuated each day, and another 15 to 30 a day incurred symptoms of mite typhus.

Once again, though, they engaged the Japanese. By the end of May, three long months after they first entered the jungle, only 200 of the original 3,000 remained in the field, some so tired they fell asleep during battle. The 2nd Battalion was reduced to 12 effective men, and its colonel fainted three times while directing gunfire. (Merrill, twice hospitalized for malaria and his heart condition was among the survivors.) Colonel Hunter, who knew how demoralized and weary the Marauders were, recommended in a stinging rebuke to higher authorities that the neglected Marauders were useless as a fighting unit and should be disbanded.

Stilwell was determined to take Myitkyina and ignored the recommendation. Medical officers, over their vehement objections, were pressured to retain soldiers in the front lines and to keep a Marauder in battle until he had run a fever of 102 degrees for three straight days. Rear-area hospitals were combed for wounded or sick soldiers who might be able to fight. One time a group of doctors actually chased and forced back a truckload of sick and wounded Marauders being returned to the front.

Eventually, though, the brave but utterly spent 5307th was pulled off the line at last to recuperate at ramshackle camps in India. Stilwell now poured into the airfield a mixture of Chinese troops and untested American combat engineers and truck drivers who had rarely fired a gun since basic training. Many crumbled under the hard conditions and ran under fire, but when Chinese troops nearby captured the town of Kamaing, the outcome was settled. The surrounded Japanese garrison had lost two-thirds of its force. The garrison commander, Maj. Gen. Genzu Mizukami, apologized to the Emperor for Myitkyina's loss and committed harakiri. Surviving Japanese troops attempted to flee overland or by floating down the Irrawaddy River, but most were captured or killed in Kachin ambushes.

The Myitkyina campaign had been one of the most bitter conflicts of the war. Allied casualties totalled more than 5,000, plus another 1,000 troops too ill to be effective. Honors poured in for Stilwell, however, as Myitkyina was the first Japanese stronghold on the Asian mainland seized by the Allies. Winston Churchill labeled it "a brilliant feat of arms," and Stilwell was promoted to full general.

The Marauders deserved the glory as well. Between February and May, they had marched 700 miles through incredibly hostile jungle, fought five major and 30 minor actions against the superb Japanese 18th Division, and driven it from an area the size of Connecticut. Yet few accolades came their way until later in the war. An embittered Hunter wrote of their mission, "No member of GALAHAD had received a combat decoration; no member had received a promotion, a candy bar, a bag of peanuts, an issue of cigarets, a can of beer, a bottle of whiskey, or a pat on the back by anyone."

Upon one statement, however, the Marauders could agree with their commanding officer. On August 4, Stilwell penned in his diary: "Myitkyina—over at last. Thank God." □

John F. Wukovits consulted 14 sources for his account of the campaign in northern Burma. As further reading, please try: The Marauders *by Charlton Ogburn, Jr.*; Stilwell and the American Experience in China *by Barbara Tuchman*; Thunder Out of China *by Theodore H. White and Annalee Jacoby*; The Chindit War *by Shelford Bidwell.*

TOP: British forces under General William Slim take Rangoon. Despite their overall encompassment under "CBI," it was virtually impossible for the British and Stilwell's Sino-American force to work together directly. MIDDLE: As Merrill's exhausted survivors are pulled out of Myitkyina, Chinese forces consolidate the victory. Here, a 155mm gun pounds counterattacking Japanese. ABOVE: Lt. Gen. Stilwell awards medals at Myitkyina. Colonel Charles N. Hunter (2nd from left) was caught by surprise and had to borrow a shirt to have his pinned to. The Marauders generally felt that the recognition they received fell far short of the ordeal they endured.

Mercy Flight In Peril

The mission of the two PBYs was to evacuate personnel from a besieged Corregidor. For Patrol Wing 10, the trip there would be one story; getting back would be quite another.

By A.B. Feuer

By April 1942, the American military situation in the Philippines was desperate. The Bataan Peninsula had fallen to the Japanese. The island fortress of Corregidor and a U.S. Army airstrip in northern Mindanao were the only remaining strongholds. The Army had been using two small unarmed planes to fly between the outposts. But when one crashed and the other was shot down, no replacements were available.

A number of military personnel and about two dozen Army nurses were scheduled to be evacuated from Corregidor and flown to Australia, but the landing strip on Corregidor was too short to accommodate a B-17 or B-24, and Darwin was beyond the range of light aircraft. There were no planes available to fly in or out of the solid rock fortress—or were there?

Not long before, a U.S. Navy seaplane squadron, Patrol Wing 10, had been battered by the Japanese until its strength was down to two PBY flying boats. Lieutenant Commander Edgar Neale and Lieutenant junior grade (j.g.) L.C. Deede had managed to escape with their planes and crews to Perth, Australia. Anxious to get back into action, they did not have long to wait.

In late April, Neale received orders for Patrol Wing 10 to proceed to Darwin and pick up a thousand pounds of supplies for the besieged troops holding out on Corregidor. The cargo reportedly consisted of medicines, antiaircraft fuses, and radio parts. The relief effort was given the code name of Operation FLIGHT GRIDIRON.

Commander Neale also was advised that the seaplanes were to take on board several "important passengers" and fly them back to Australia. A few drums of aviation fuel had been stashed in a hide-out at Lake Lanao, Mindanao—not far from the Army airstrip at Del Monte. The Army would supply a refueling crew for both legs of the trip.

Commander Neale and Lieutenant (j.g.) Thomas Pollock commanded one PBY while Deede and another officer were assigned to pilot the second aircraft. Each plane carried an additional crew of five.

At 10 a.m. on April 27, the two seaplanes roared off the water. Their first stop was Shark's Bay for fuel—and the flight crews' last good meal for a week.

By 6 p.m., Patrol Wing 10 was airborne and headed for Darwin. The seaplanes had no sooner settled down on their course than they ran into scattered rain squalls. Wind shifts were frequent, and it became necessary to change course several times. It was soon dark, and Pollock turned on his PBY's running lights to help Deede maintain close contact.

Both aircraft were flying at 1,000 feet through heavy cloud formations. Navigation was by dead reckoning, since no stars were visible. Neale and Deede followed the Australian coastline and arrived at Darwin about 5:30 the following morning.

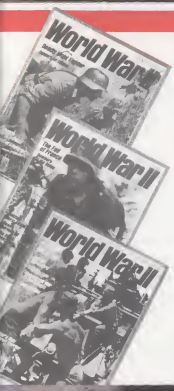
"We had just emerged from a cloud bank and Darwin lay dead ahead," said Pollock later. "We took what we thought was the required approach for friendly planes and headed in. I soon found out that the procedure had been changed and that we were responsible for a false air raid alarm. This was during a period of. . .[occasional] bombing of the city and the antiaircraft gunners were a little trigger happy."

After landing and tying up to buoys, Commander Neale discovered that no arrangements had been made to refuel the aircraft. However, an Australian sergeant, in charge of the Qantas Airline gasoline barge came to the rescue and gassed up the seaplanes.

Neale went ashore to inquire if the Lake Lanao area was still in American hands and if the gasoline cache was safe. The next leg of the flight would be 1,350 nautical miles to Mindanao and 500 more to Corregidor, all over enemy-held territory. It would be a one-way trip if fuel were not available.

Pollock related: "In the event of an enemy bombing raid while Neale was ashore, we flew the planes away from town and landed in the upper bay area. We taxied up a small river where we anchored and attempted to catch a few hours sleep. However, there was no sleep for anyone that day. The temperature was 105 degrees, and the flies attacked us in droves. The wind also kept shifting and caused our planes to drag anchor. It became necessary to start the engines in order to keep from drifting into the heavy brush alongside the river bank. We seemed to be continually re-anchoring almost every hour. The Japanese planes never showed, so about 3 p.m.

Japanese aircraft raid Cavite Harbor near Manila, beginning a campaign that will drive U.S. forces from the Philippines. With air superiority established from the onset, the Japanese soon made it almost impossible for American aircraft to operate in Philippine skies. In late April 1942, two slow PBY flying boats of Patrol Wing 10 attempted the impossible.



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TOP: The only American-held areas in the Philippines in April 1942 were at Corregidor and Mindanao. Their landing sites were 500 miles apart—with all airspace controlled by the Japanese. MIDDLE: General Homma had only two divisions to face General MacArthur's 11 on Luzon, but they were better equipped, trained, and concentrated to carry out their offensive. ABOVE: With the fall of Bataan, Corregidor became the last outpost for 10,000 weary U.S. troops. Japanese heavy artillery on Bataan was positioned two miles to the right in this view of the island.

we flew back to Darwin and picked up Commander Neale."

Cargo boats and loading crews had already assembled by the time Pollock and Deede tied up at the buoys. The men hurriedly began stowing crates of supplies aboard the seaplanes. But instead of a thousand pounds of freight, nearly 3,000 pounds were crammed into the aircraft. Antiaircraft nose fuses were stacked along the entire length of Neale's plane, making it necessary for the flight crew to crawl on their hands and knees to move about in the PBY.

While in port, Neale was told that American ground forces were managing to maintain radio communication with Corregidor, and that gasoline was still available at Lake Lanao. He also received secret recognition signals to identify the people who would be meeting the planes at a specified rendezvous point.

At 4:30 p.m., Patrol Wing 10 revved up its engines and raced across the bay. The heavily laden aircraft skipped along the water and grudgingly lifted into the late afternoon sky.

Commander Neale's flight plan was dangerous. He first routed the seaplanes past the tip of Japanese-held Timor Island with many enemy aircraft stationed at Dilli, but Neale realized that it was impossible to miss all the enemy bases. With the heavy loads aboard both planes, he decided to conserve fuel and take the most direct route to Mindanao. As Pollock remarked, "In case of an emergency, we could choose from a large variety of islands on which to spend the war."

It was already dark when Patrol Wing 10 reached Timor. Despite the fact that navigational charts did not show all the islands, Neale and Deede were able to identify some prominent landmarks.

A short time later, the seaplanes flew into rain squalls and heavy clouds. The aircraft lumbered to 7,000 feet, hoping to rise above the threatening weather, but another layer of clouds prevented celestial navigation.

Patrol Wing 10 sneaked past Ambon Island without rousing any enemy planes. But the main concern was the Japanese base at Manado. Pollock stated: "We were soon crossing the long neck of the northern Celebes. I could see Manado lit up like a Christmas tree about 15 miles on our beam. This was a good omen. If we had been detected earlier by Japanese radar, evidently they did not pass the word along. From this landfall we headed across the Celebes Sea to the Moro Gulf. There would be no more landmarks until we reached Mindanao. We had no desire to stir up a hornets' nest at Davao, and therefore flew up the west coast of Mindanao until we reached Lake Lanao. I had heard that Japanese troops were crossing the island from Negros, so we headed directly to our rendezvous location. Sure enough, there was the blinking light. I answered with my signal lamp, after which the light on the water flashed the 'magic word.' We were among friends."

The time was 4:30 a.m., and the night was pitch black. The two seaplanes circled down to the pinpoint of light and made standard power landings as close to the site as possible. A native outrigger canoe met the aircraft and directed them to hiding places.

Deede's PBY was led to a cove near the barrios of Bacalod and Lumbak. Neale's plane was guided to the eastern shore of a small island and nosed into the beach under a cluster of overhanging trees. His seaplane was lashed to the branches, and old tires were set in place to prevent the bow from banging against several large rocks.

Pollock later recalled: "A small group of soldiers and sailors met our aircraft. All hands immediately began to cut brush to hide the PBY. The insignia stars on the wings and side were covered with blankets so they would not show through the camouflage. It was well after daylight before the job was completed. We were hoping to lie down and rest, but by this time the whole Moro village had assembled. The natives were squatting on their heels and

Seen here over an Arctic land and seascape, the Consolidated PBY Catalina was one of the outstanding flying boats of the war: long-range, rugged and remarkably versatile.

chattering like a bunch of magpies—result? No sleep again."

Additional freight was hauled out to the seaplanes. In order to make more room in the already overloaded aircraft, the crews stripped the planes of all nonessential items. Blankets, oxygen canisters, spare food and tools were removed. But this was still not enough. There was only one solution—the guns and ammunition had to go.

Recalled Pollock: "It was like parting with old friends when we carried out those two .50-caliber waist guns and stowed them with the other 'nonessentials.' The only things we kept were our code books, navigation equipment and emergency rations."

Neale and Deede were given further instructions where to rendezvous with the passenger evacuation boats at Corregidor. The location selected was off Caballo Island. Neale had expected that the seaplanes would land in calm waters on the east side of Corregidor. Both pilots had misgivings about landing at night with a heavy load, and in open sea where ground swells would bounce a PBY like "a rock skipping over a pond."

At 6:45 p.m., April 29, the two ships of Patrol Wing 10 took off from Lake Lanao bound for Corregidor. When the aircraft passed Sindangan Point, they headed north across the Sulu Sea.

Neale had not received any atmospheric reports, but soon noticed that the weather was deteriorating. "A thick haze extended up to 2,000 feet," recalled Pollock. "I navigated until we should have been over the Cagayan Islands but could not see them. We circled down through the fog until I spotted the landfall about two miles away. The same procedure was necessary at the Cuyo Islands, about a hundred miles north. There could be no navigational mistakes now. We flew on—not daring to drop a flare until we passed Busuanga Island. I tried to take a radio bearing on Manila but without success. I could spot the lights of fishing boats, but no navigation lighthouses. Manila was blacked out."

Corregidor was a tiny speck in dangerous and hostile waters, but Patrol Wing 10 was in luck. A large oil tank fire was seen burning fiercely on the island. It served both as a beacon and wind-direction guide for the circling seaplanes.

Commander Neale cut his engines and glided silently down to the choppy sea. Deede momentarily lost contact with the lead PBY, but he landed nearby, and both aircraft taxied to the rendezvous point.

The time was 11:20 p.m. Within a few minutes, two boats motored alongside the seaplanes. Soldiers immediately began unloading the critical supplies. Several passengers also climbed aboard. Once loaded, the motorboats scurried back to Corregidor and returned with more passengers. After a few trips, all the cargo had been removed from the planes.

Pollock was at the controls of his PBY, trying to keep the aircraft from drifting against the rocky coast. Many of the passengers were having difficulty climbing into the bobbing plane, and the resulting delay hampered the unloading procedure. Pollock was visibly irritated. He grabbed the microphone and shouted out, "After station from pilot—get those old women aboard and let's get the hell out of here before the Jap artillery discovers us!"

Aircraft Machinist Mate D.W. Bounds stumbled forward to report conditions. "Well, you were right about the women—we have 13 aboard!"

"How many people do we have on this PBY?" Pollock asked a moment later.

"There must be at least 30—you can't walk from one end of the plane to the other!" Bounds answered.

A quick check revealed that 10 Army nurses and three civilian women, including the wife of a brigadier general, were on board. The passenger list also included the general himself, U.S. Navy Commander Frank Bridget, and several other military personnel. A lieutenant colonel of the U.S. Army Finance Department also jumped into the plane. He was carrying two million dollars in Philippine pesos. Pollock taxied his PBY over to the other seaplane. Deede's ship was also loaded with "refugees." Both pilots agreed to leave immediately.

Pollock stated: "I jammed three people into the bomber's compartment and another between the pilot seats. I passed the word aft for all passengers to move as far forward as pos-

Mitsubishi Ki.21 bombers range unopposed over Corregidor and Caballo Islands in April-May 1942. Even if Patrol Wing 10's PBYs made it to Corregidor, they faced the danger of being bombed in the water.

sible. We poured on the fuel—full throttle. Spray covered the windshield, and after a long anxious run, the plane lifted into the air. I banked toward the open sea and started to climb. I glanced back to see if Deede had made it—he was right on my tail. Our crew passed around chocolate bars and started the coffeepot going. It remained in operation the entire trip."

As Patrol Wing 10 reached the vicinity of the Cagayan Islands, Pollock changed course. He had been flying through heavy fog most of the time, but when his PBY emerged from a large cloud formation, Deede was nowhere in sight. He kept his fingers crossed that the second seaplane would eventually reach Mindanao.

Pollock stated: "We were soon over Lake Lanao. I was able to find a hole in the thick cloud cover, circled down and landed. We taxied to our island hide-out and followed the same procedure as the previous night."

The passengers were unloaded and taken to the mainland in outrigger canoes. They were transported in a beat-up old bus to a couple of so-called hotels, where they were able to take a bath and have their first good meal in weeks.

About an hour after daylight, Deede came sailing in for a landing. It seems that when he discovered he had lost contact with the lead plane, Deede made some hasty calculations and set his own course for Lake Lanao. He had set down in a sheltered cove until daybreak and then had taken off on the final leg to the rendezvous location.

While talking to the passengers during the flight, Pollock had learned that Corregidor had been under constant bombardment day and night, a tempo that increased until the island was being pounded by 3,000 shells a day. One reason that the seaplanes were not destroyed on the water may have been that the two aircraft had landed on Emperor Hirohito's birthday. The Japanese had taken the day off to celebrate.

At Mindanao the PBY flight crews hoped they would finally be able to get some rest. After only seven hours sleep in the past three nights, the men were mentally and physically exhausted. Still, they pitched in to help camouflage and refuel the planes.

A Japanese reconnaissance aircraft was buzzing around the far end of the lake, apparently looking for American planes at the Army airstrip. The native Moros cautioned that more enemy planes were coming, and a few minutes later several Japanese aircraft flew over the lake. They were evidently headed for a captured airfield at Malabang—only 17 miles away.

No sooner had the PBY airmen settled down for a well-earned rest, than the Moro chieftain, or Datu, showed up with a small group of natives. They were not chattering, which was a bad sign, and seemed agitated. Pollock stated: "The Datu, a Mohammedan who had been to Mecca, wore a colored fez and carried a .45 pistol on his belt. He could not speak English, so we used an interpreter to find out what the problem was. The Datu told us he was upset because the entire village would have to move. We asked why, and were told that there would be no trees to furnish food or beetlenuts to chew. After a great deal of questioning, using pidgin English and hand motions, we discovered what was irritating the Moros. It seems that a native, unsympathetic to our cause, had told the Datu that we intended to cut down all their trees in order to cover our planes. This was a serious blow to the Moros, because it meant the loss of their food and clothing. We explained at length that we would only cut enough brush to camouflage the seaplanes from Japanese view. The natives held a conference with much unintelligible chattering. Finally, the Datu seemed satisfied, but asked us not to cut down any coconut or banana trees—especially, no beetlenut bushes. We readily agreed to the request. To chop down a beetlenut bush is a catastrophic happening to a Moro.

"We thought we had this diplomatic part of our mission under control and passed around American cigarettes to the natives. The Datu was content—the natives were happy—and we were relieved. Suddenly, out of nowhere, an overly ambitious sailor strolled past with another load of brush to cover the plane and—you guessed it—beetlenut! The whole show started all over again—pidgin English, hand gestures, and much angry chatter. We finally managed to cool down the Datu and convinced him that the sailor

was unaware of what he was cutting."

At about 3 p.m., departure orders were issued and all passengers loaded. The seaplanes finished refueling and were ready to go. Deede started his engines and impatiently waited for Pollock to back off the beach.

But tragedy was about to strike, without warning. As a strong wind commenced blowing toward shore, the only way to move the second plane away from land was by means of a large motorized outrigger. The skipper of the craft was a native who could not understand English. He was having a difficult time handling his boat in the wind, but finally managed to grab a towline tossed to him from the aircraft. As the outrigger tried to pull the heavy seaplane away from the beach, the PBY began to drift. The native's boat could not hold the plane. The flight crew cut the towline, while at the same time trying to ward off overhanging tree limbs.

Pollock stated: "I had hoped to drift into open water. I would then be clear to start my engines—but fate had other ideas. I heard a sudden crunch and ripping sound as our hull scraped against a submerged coral reef. Water instantly poured into the ship. Everybody frantically grabbed blankets to cover the holes. They stood or sat on them to try and stop the rush of water. I immediately started the engines and pivoted the plane into the wind. I intended to taxi for takeoff, but received word that we were flooding rapidly and not to attempt a flight run. I turned back to the beach and landed.

"Deede lifted off soon after our mishap and was circling waiting for us. I grabbed my blinker light and signaled him to go on. He acknowledged the message and headed south. It was an empty feeling to see him disappear over the tree tops and head for safety."

The passengers scrambled out of the damaged aircraft. Watertight hatches were slammed shut, and the flight crew began stripping the PBY of excess weight. Empty gasoline drums were lashed to the tail of the ship to help give the plane additional buoyancy.

The bow and port wing of the seaplane rested on the beach, but the tail and starboard wing were underwater. Additional drained fuel drums were tied under the sunken wing to lift it clear of the lake.

Pollock recalled: "By now it was 10 p.m., and my crew was exhausted. Four Army soldiers volunteered to help patch the plane. They did the finest job of emergency aircraft repair work that I have ever seen, one fellow continually dived under the ship, running his hands over the hull to find the holes. Another lad crawled inside the flooded plane and marked the underwater tears. There was a large ripped section, about two-feet square in one compartment. Another compartment had a wide area on the side near the waterline that was caved in."

The soldiers smeared marine glue on strips of muslin and plastered the fabric over the smaller holes. Other men began bailing by hand. An Air Force officer managed to locate a water pump, and it was put to immediate use. The water gradually began to recede. The leaks in the aft part of the ship were finally sealed, and the tail lifted slowly out of the lake.

It was just before dawn when the men quit work. The plane had stopped sinking, so a man was posted aboard to watch the aircraft, while the others stumbled to the beach and collapsed on the sand—completely worn out.

Commander Bridget, concerned as to whether the PBY would be able to carry its heavy load of passengers, decided to bus the Corregidor people to the Army airstrip at Del Monte and wait for the expected arrival of a B-17. The Army bomber was due to land at any time.

Water was still sloshing around in the seaplane, and the navigation table was underwater. Pollock stated: "Navy Captain J.L. McGuigan soon arrived in an automobile. He had brought along a native carpenter, some tools, and all the patching material he could find. A pump and bucket brigade

TOP: When no other way existed to run supplies in and wounded people out of Corregidor, submarines did what they could. USS Trout evacuated a great quantity of gold bullion from the fortress. MIDDLE: In a more desperate escape, sailors from the mine sweeper USS Quail left Corregidor aboard a 36-foot motor launch and made it to Australia. ABOVE: On May 6, 1942, the last of Corregidor's defenders surrendered, to face a brutal ordeal at the hands of their Japanese captors.

TOP: Corregidor is bombed and shelled as Japanese Marines make their final assault. MIDDLE: Left in command of U.S. forces in the Philippines by MacArthur, Major General Jonathan M. Wainwright, still in his steel helmet, faces a Japanese camera after the surrender. ABOVE: The PBYs' only fueling stop between Corregidor and Australia was the airstrip at Lake Lanao, Mindanao, a place with hazards all its own.

began to work furiously. Temporary patches were installed, but we could not stop water from leaking through the large hole. A blanket was worked around and underneath the aircraft by means of long ropes. As bailing progressed, the water pressure pressed the blanket over the rip and slowed the leak. It took two hours to remove all the water from the compartment.

"The men attempted to repair the hole from inside the plane. A wooden patch was sealed over the torn hull, but it did not hold. Finally, a small tree was chopped down and cut to the shape of the opening. The leak was plugged. Captain McGuigan worked naked for six hours in the bottom of the greasy, slimy hull that was covered with marine glue. I heard that he had been recommended for a Silver Star for his efforts in saving the plane. He certainly deserved it."

At about 4 p.m., Neale decided to attempt another takeoff. Captain McGuigan, five members of a PT boat crew, three soldiers, and another naval officer climbed aboard for the trip home. This time there was no wind and the seaplane was towed clear of the shoreline. The engines were revved up and the PBY plowed a furrow across the lake. As the aircraft rushed forward, the blanket lost its suction, and water began pouring into the hull. All hands started bailing as fast as they possibly could.

Pollock stated: "The engines were cold, but I used full throttle on one of the longest runs of my life. We were forced to take off heading straight for a mountain. I could not wait for a normal liftoff, as the shore was approaching fast. I pulled up sharply. The PBY staggered through the air, gradually picking up speed. We had several hundred pounds of water in the hull, and the plane wobbled until it all drained out." Now, since the seaplane was unarmed, the main concern was to avoid any Japanese aircraft in the vicinity.

Commander Neale spied storm clouds on the east side of the lake and flew into them for protection. He then headed straight south and reached Darwin the following morning. The crippled seaplane bounced three times while landing on the water, but the patches held. The crew ate a hot breakfast and left immediately for Perth.

Neale and Pollock were in no mood to follow the coastline of Australia this time—they made a beeline for their home base. They touched down at 1:30 the next morning and discovered that Deede had also arrived safely.

The sad part of the story is that the Army B-17 never arrived at Del Monte. Commander Bridget and the other Corregidor passengers were captured by the Japanese and shipped to Manila. The Army nurses and civilians were imprisoned at the Santo Tomas internment camp. The military men were taken to Bilibid Prison and later put on unmarked prison ships bound for Japan.

The flight personnel of Patrol Wing 10 were awarded Silver Star Medals. The citation read: "For gallantry in action during an aerial flight from Australia to the Philippine Islands and return, from April 27, 1942 to May 3, 1942. These officers and men executed, with marked skill and coolness, an important mission in the face of greatly superior enemy forces.

"With guns removed from the planes to lighten the load, they delivered to the besieged garrison of Corregidor, essential medicines and other military supplies. On the return trip, they brought out members of the garrison. Their action in flying unprotected planes through an area filled with hostile aircraft, and into a place repeatedly subjected to heavy enemy attack, showed extraordinary courage." □

A.B. Feuer writes from Roanoke, Va. As further reading, he suggests The Lonely Ships, *by Edwin P. Hoyt;* In The Hands of Fate: The Story of Patrol Wing 10, *by Dwight Messimer.*

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Confident of victory, Afrika Korps *troops pause outside of Tobruk. The town itself was not easy to take, and one offensive and counteroffensive after another swirled around it. The swastika flag ensured recognition by* Luftwaffe *air support, but was equally visible to British reconnaissance pilots like Geoffrey Mower of 451 Squadron, RAAF.*

Hurricanes At Dawn

One morning in 1941, the airmen of Australia's No. 451 Squadron awoke to find German tanks parked on their airstrip. In seconds, the scramble was on.

By Geoffrey Morley Mower

Egypt's Western Desert is flat, stony and tractable. It spreads south from its barren coastline, a calm sea of sand, camel-thorn scrub and salt flats, a perfect environment for tank warfare. There were no civilians, with the exception of a few Bedouins who kept well to the interior and whose dark tents we seldom saw.

I think that's why the battles that took place there bring such feelings of nostalgia to the participants. We never had to face ruined villages, snipers in church towers, weeping widows, raped girls or decapitated children. It was for combatants only: British, New Zealanders, Australians, South Africans and Indians facing Germans and Italians. Grandfather Death was there, of course. Lots of flies feeding on the corpses. Brutal discomfort. A scorpion under every stone. But, as wars go, it was a comparatively clean one.

I was sent from India Command in August of 1941 as a kind of "foreign" reinforcement to No. 451 Squadron, a newly formed Australian unit flying Hawker Hurricane fighters in the reconnaissance role. "The boys," as they called themselves, talked tough and were as tough as they talked. They wore fur felts, the romantic Australian bushwhacker's hat, turned up at one side. Their summer shorts were skintight and abbreviated, showing muscular thighs. They looked like a fighting tribe. I felt decidedly inferior with my plummy English accent, my wide tropical shorts that looked more like divided skirts and a solar topi designed in the grand manner. It took three months for the laughter to die down, but finally they accepted the fact that I was made up of slugs and snails and puppy dogs' tails like any dinkum Aussie.

It was not a vintage year for the British Army. Flushed with victory in Europe, General Erwin Rommel had landed on the coast of North Africa in March 1941, with his invincible panzers, and with a flick and a twist of his muscular wrist he threw our army back to the "wire," the Libyan frontier with Egypt.

TOP: In an attempt to clear the Afrika Korps *from the area around Tobruk, General Sir Alan Cunningham initiated a British offensive around Sidi Rezegh in November 1941, only to find the Germans quite equal to the occasion, engaging in a raid of their own on a fluid front. MIDDLE: Looking as out of place as he sometimes felt as a Brit among Aussies, Geoffrey M. Mower, RAF—in the lining of an old flying suit that he used for sleeping apparel—poses at left with four of "the boys" of 451 Squadron, RAAF: Ed Kirkham, Ron Achilles, Paddy Hutley, and Colin Robertson. ABOVE: Armed with a camera for high-speed reconnaissance, Hawker Hurricane Z4036 served in Mower's squadron, No. 451, RAAF. The sand filter for the oil cooler intake adversely affected performance, but no more so than the filters used on other aircraft of both sides. Such measures were necessary in view of the grinding destruction that sand was capable of inflicting on the moving parts of aircraft engines.*

By November both sides were ready to start fighting again. General Sir Alan Cunningham, the British Eighth Army Commander, was the first to move. On November 18, he rolled his tanks over the wire and positioned himself for battle south of Tobruk, the fortress deep in enemy-held territory that the Australian 9th Division had resolutely defended since the debacle earlier in the year.

Rommel's tanks accepted Cunningham's challenge, and a death or glory struggle began on the escarpment near the German airfield of Sidi Rezegh. Reconnaissance is not suited to the interpretation of battles in progress. We flew dutifully overhead each day, watching the displays of smoke and flame on the ground, but no one could tell who was winning.

On the evening of November 23, I turned in early. It had been a hard day. We slept in one-man bivouacs, and a cluster of them were pitched around the two marquees of the officer's mess. We had moved forward in the army's wake, and I remember walking away from the evening meal—cold bully beef and dry biscuits—feeling fed up with the discomforts of our migratory existence. The Hurricanes, dispersed along the strip, sat up on their frail retractable legs. I didn't give a thought for their security. I lay on the ground, slightly damp from the previous day's rain, and wondered for the thousandth time how the battle really was going. Then I turned over and slept like a dead man.

It was some hours later that I was roughly awakened by someone beating on the tent above my head.

"The Jerry's tanks are on our airfield!"

It was an Australian voice. As the confusion of sleep dissipated, I heard the sharp scratch of his army boots on the stony surface as he rushed away. I didn't doubt the truth of his message for an instant. I scrambled into my clothes and, grabbing my few possessions, made for the flight tent.

Sure enough, in the growing light 20 tanks could be seen, randomly dispersed across the western edge of the strip. They were less than a thousand yards away. The whole camp was in a fever of activity, men rushing in all directions, most of them with kit bags on their shoulders. Trucks, overcrowded with bodies, were already departing in clouds of dust.

Only the tanks were still and silent.

I looked at them, utterly amazed. Were they waiting for orders before they swiveled their guns and began to destroy our Hurricanes and then us? Were we, like Hemingway's ants on a burning log, running away from one flame to be consumed by another? I looked to the east to check whether we were surrounded, but all I could see were the dust clouds of our rapidly retreating vehicles.

One of the technical sergeants was allocating aircraft to pilots as they ran into the flight tent. His own truck was ticking over, filled with men and equipment. I noticed that the airmen aboard had their fur felts on their heads with the straps fixed under their chins. They looked strangely formal, as if they'd dressed themselves in parade order, ready to die like diggers when the guns opened up on them. Hutley and Kirkham, both Australian pilots, were just leaving, making off at speed toward the sitting Hurricanes. Parachutes, slung over their shoulders, slapped noisily against their backs as they jogged off.

"Is there a kite for me?" I shouted.

"I sent the serviceable ones off first, Sir."

The NCO, a tall, lean Aussie, looked embarrassed at having nothing respectable for me to fly. I'd been sleeping like a log and had arrived very late on the scene. I was ready to fly anything flyable.

"What about a U/S [unserviceable] one?"

"Take 'J.' The undercarriage was being worked on." He pointed out a Hurricane that was standing on its own between me and the tanks. I ran.

When I reached the aircraft, several ground crews, dragging

Tactical reconnaissance was essential in the rapidly fluctuating war of movement on the Libyan Desert. "Instant developing darkrooms" rigged in the field got the photographs into commanders' hands when they would do the most good.

a starter trolley, were making hurriedly toward it. Hurricanes were already taking off, and the noise level was high. I looked toward the tanks, expecting any moment to see the flash of their guns, but they sat there, heavy and inert, ignoring the pandemonium their presence had created.

I swung up into the cockpit, threw the parachute onto the bucket seat and vaulted in. I decided against fastening on the parachute. It would have taken 30 seconds to sort out and secure the straps. Too long. I sat uncomfortably on top of the tangle of straps and buckles and stuffed the clothing bag between my knees. It interfered a bit with the free movement of the stick. The engine fired and I waved away the chocks. Before I could get the aircraft rolling, the crew was aboard its truck and was beginning to move off. I closed the cockpit hatch and took off in the dustcloud of two Hurricanes ahead of me. The wind was light, and we were all taking off away from the tanks.

Once in the air, I felt safe. The relief was exhilarating. I looked down at the strip and saw that nearly all our squadron vehicles had departed. The tents were still standing and on the ground was one lone Hurricane that obviously couldn't be flown. The German tanks sat there looking solid. They had not fired at the aircraft taking off, nor at the fleeing trucks. It was as if the men inside them were dead. By a fantastic chance, they had stopped sometime in the middle of the night on the edge of our airfield, only to be discovered by our early risers at first light. Days of hard fighting at Sidi Rezegh, followed by the long trek eastward, had so exhausted the tank crews that even the appalling racket of our takeoffs had not disturbed them.

I was grossly uncomfortable at first, but by shifting my buttocks around and arranging the parachute buckles to lie between my thighs, I eventually settled down. I didn't secure the straps because there seemed no point in it. This aircraft had manual locks in its undercarriage, and there was no way I could get the wheels to retract. Looking to the east, I saw one of the memorable sights of my life—a modern army in headlong retreat. As far as the eye could see, the desert was streaked with dust trails as thousands of trucks, driven by soldiers whose units had been disorganized and stampeded, made their way back from the Egyptian frontier to safety. The sun was just rising above the horizon, and the lines of dust from all those racing wheels were tinged with pink, trailing like exotic feathers against the dark, plum-colored sand. It was what came to be known as "The November Handicap," named ironically after the annual British horse race.

I knew that 13 Corps Headquarters, the army formation we worked for, was to the south, so I headed in that direction hoping to find the bulky headquarters' vehicles and drop an appropriate message; but there was such a melee of crisscrossing traffic that I soon gave up the idea. Running across L.G. 122, a landing strip east of Fort Maddalena, I decided to land and inquire. The field itself was an extraordinary sight. There must have been more than 150 aircraft stacked around it, some of them wing tip to wing tip. It was the best *Luftwaffe* target I ever saw, dispersal having been abandoned in the confusion of withdrawal. There were Blenheims, Lysanders, Tomahawks and many Hurricanes. Clearly, there had been an emptying out of the forward airfields to the north in the wake of the sudden German thrust, and someone in authority had designated this one to be a safe refuge.

Most of the Hurricanes seemed to belong to fighter squadrons. I walked over to a boyish looking pilot who was sitting on his parachute under the wing of his machine. It was freshly painted and contrasted wonderfully with my own beat-up, unserviceable model. It had probably arrived a month before, had undergone its operational checks and then been camouflaged for the Middle East. On its nose was neatly inscribed

the pilot's own name. Some squadrons encouraged the allocation of aeroplanes to individual pilots, and they were permitted to put their names on them. Some even marked their victories with a row of swastikas. Nothing so glamorous was possible in a reconnaissance unit. We won no victories and had no heroes. The "P.O." on his Hurricane's nose stood for Pilot Officer, the lowest commissioned rank in the air force.

"Is this your kite?" I asked.

"Yes, sir."

You don't address flight lieutenants as "sir." Scorn began to supplant envy in my mind. He was red-cheeked and tubby. Probably just out from England where he'd called all his instructors "sir." He couldn't have been more than 19. I was three years older, yet I felt in an entirely different category of human beings.

"Have you seen any army liaison people around?" I asked.

"Yes, sir. Major Havelock is in the tent over there."

He pointed to a cluster of tents 50 yards away. A dusty camouflaged staff car stood outside one of them.

"The one by the staff car," he said.

"Thanks."

Conscious of my importance as the bearer of extremely precise and up-to-date bad news, I walked over. Several army officers and their clerks were employed inside—the tent flaps were secured in the open position, and I could see all of them working away.

A major came out of the tent wearing his service hat. He was formally dressed in winter khaki with a leather belt round his waist and the sling that goes over the shoulder. I wondered why he was got up for a parade in the middle of a campaign. Was he attired for Death like the early morning Aussies?

"I've just done a recon," I told him. "Our squadron woke up this morning to find Jerry tanks actually parked on our landing strip." I took out my map.

"There are 18 tanks there and some more here."

"Damn all," he said, "save this for the general."

"What do you mean?"

"General Cunningham has his H.Q. a mile from here. Get in my car and we'll go and see him."

In a few minutes of driving along a well-worn track, we came to a typical clutch of mobile headquarters' caravans. Major Havelock ushered me up the steps into the command vehicle, which had a table, some folding chairs and a big upright situation map. Soon General Cunningham appeared. He was a tall, lean man in his mid-fifties, dressed in khaki drill slacks with a brown pullover over his pyjama top. He was clearly unshaven, and I had the distinct impression that they had just awakened him.

I told him my story, giving figures and pointing out locations on his situation map. He was obviously worried but he did not fail to smile on his tragic messenger.

"This is very valuable," he said gravely, "but it's already slightly out-of-date information. This was about six o'clock?"

"Yes, sir."

"I'd like you to fly right back there and report on the situation as it is now. It may have greatly altered. I want you to fly around the whole area and try to get a picture of it."

"My aircraft is unserviceable, and I don't know where my squadron is."

"Borrow one!"

He said these last two words with great authority. Clearly, I thought, the army commander should have any aeroplane he wanted. I'd already decided on that nice new Hurricane with the P.O.'s name on it.

When we got back to the strip, I asked the Major to stand by while I wrangled the kite from the young man. It wasn't going to be easy. I wanted to sound very reasonable at first and to get tough later on if necessary. It certainly goes against the grain to give one's aeroplane to a pilot from another squadron, and he would probably think he was committing a military crime by doing so. A more experienced officer would find it easier to accept. I knew this schoolboy was going to act as if his teeth were being pulled.

He arose from his parachute and stood apprehensively as we approached him. He wasn't actually standing formally to attention as he might have done on a parade ground, but his posture was rigid, both subservient and defiant.

"Is your squadron commander here?" I began.

"No, sir."

HIDDEN HANGAR IN BESIEGED CITY

Months before his special reconnaissance mission for General Alan Cunningham, author Geoffrey Morley Mower had earned another unique distinction: the only Allied pilot to fly operationally from Tobruk during Erwin Rommel's first siege of the coastal city, April 9 to late November 1941.

For five months after Rommel's Axis force had completely encircled Tobruk, Australian General Leslie Morshead's beleaguered garrison fought with undiminished bravery to hold the perimeter. Stuka squadrons and ME-109 fighters operating from bases less than 50 miles away barred any incursion by British planes from airfields in Egypt.

Rommel had approached Tobruk in April confident of capturing it quickly, but had lost almost 17,000 of his troops in the process, threatening to put an end to the German thrust toward Suez.

Morshead was concerned at his inability to observe German troop concentrations. His Australian 9th Division was soon to be relieved by British and Polish troops, but the operation would take a few nights, and Morshead knew how vulnerable he would be during the changeover. The topography of the Tobruk area and the difficulty of building observation towers that would not immediately be knocked down by enemy artillery limited observation to little more than a mile in places.

Air reconnaissance was needed, but the nearest reconnaissance squadron was at Sidi Barrani, more than 120 air miles from Tobruk. The Hawker Hurricane Mk.1 aircraft of 451 Squadron, Royal Australian Air Force, had a range of 340 miles, not enough for effective flights to the west of Tobruk even if they could have run the gauntlet of the enemy airfields that lined the coast. The Tobruk airfield, El Gubi, had been under steady bombardment by Italian artillery since April and could no longer be used.

Anticipating the need for air support, General Morshead had another strip cleared near the harbour. Australian engineers had built two concealed hangars, each large enough to accommodate a single-engine aircraft and so well camouflaged that they could not be detected from the air. Supplies of fuel, spare parts and a Royal Air Force servicing crew were already in position.

Enter, then, Flying Officer Geoffrey Morley Mower, an RAF pilot flying with the Australians. Approaching besieged Tobruk, he flew low over the badly battered buildings. A slight turn to align himself, nose down, full flap, and the Hurricane touched down. He then gunned the engine and taxied quickly toward an airman waving from a truck at the end of the strip. The truck moved off, leading the aircraft down a broad sloping track that curved left into the escarpment, where the hidden hangars were located. As soon as he cut his engine, six airmen ran the Hurricane into the hangar on the left at a brisk pace.

In a short time, he was bumping over the flat red rocks and dodging round

"Your flight commander?"

"No, sir. I don't know where they've got to. I'm waiting for orders. Major Havelock says he . . ." He looked at the major, who looked at me.

"I'm afraid I have authority to fly your aircraft on a special sortie for General Cunningham. You know he's commanding the Eighth Army?"

"Yes, sir. But I can't let you have it without my CO's permission. He'd kill me."

Havelock stepped forward and put his hand on his shoulder.

"There's no time for that, old boy," he said. "This is an emergency."

The P.O. was visibly weakening. He looked at his beautiful Hurricane and back to me.

"Will it be all right?" he asked pleadingly.

"Sure," I answered, "it's the correct thing to do."

It was just after nine o'clock that morning that I took off again. We normally flew in tandem, one guarding the other's tail, but this time I didn't arrange for a pilot to cover me. I think it must have been my sense of the occasion. The British forces had suffered a defeat. My own unit was scattered. This flight wasn't like any other; it was for the general and it couldn't be delayed.

I was hungry and thirsty, having neither eaten nor drunk since the previous evening, but I was too excited to care. The *Luftwaffe* might be all over the battlefield, I thought, so I kept low throughout the flight, mostly below 400 feet, only once rising to 2,000 to get a bigger view and then down again. Actually, I needn't have bothered. The advance of the New Zealand Division along the coast toward Tobruk had persuaded the *Luftwaffe* to clear out all its forward operational squadrons to safer positions, and the inevitable disorganization reduced German fighter activity for that day. It was typical of desert warfare that one of our infantry divisions could be advancing in one sector, while enemy tanks counterattacked by punching a hole right through our center.

As soon as I was airborne, I saw the same scenes of widespread retreat that I'd seen earlier. However, at L.G. 132, the strip we'd had to abandon so hurriedly, things were a little different. The two groups of enemy tanks near the airfield had joined forces and were now fanned out, driving in a direction more north than east. Smaller collections of tanks, totaling 80 in all, were scattered south of the airfield, all slowly grinding in the same northeasterly direction. Masses of trucks, some dragging 88mm field guns, followed at a discreet distance. Excited by the discovery, I almost turned back to rush the hot intelligence to the general, but I thought better of it.

I skirted the columns and concentrated on making a detailed situation map of the area. There were a number of smaller groups of enemy vehicles, some stationary, some moving. I wasn't able to avoid flying directly overhead some of the transports, and whenever I did I would see the same reaction. Men would throw themselves from their trucks and run. Some would aim a weapon at me or fire blindly upward. Occasionally a mounted machine gun would blaze away at me as I passed overhead. I was expecting the familiar white puffs from German light antiaircraft batteries, but received none. Perhaps it was because they were on the move. Flying low and fast, I didn't feel at all threatened by the small-arms fire.

I'd been almost 40 minutes in the area by this time and had done what I thought was a good job. Diving to my safe height again, I saw a perfect strafing target. Ten German lorries, their camouflage darker and greener than ours, were lined up one behind the other following a track that headed north towards Halfaya. My front gun button was on "fire" and all I had to do was to draw a bead, press, and rake through the column as I flattened out of my dive.

Inside the cockpit I could only feel a mild vibration and the "trr-trr" of the guns beneath the roar of the Merlin engine, but down below me was chaos. Eight .303 machine guns project a stream of lead that hits a soft skinned vehicle like the kick of a giant. They slewed off the track and scattered over a wide area, overturning, sending out sheets of flame and columns of smoke which rose slowly in the still air.

Turning steeply to look back, I could not believe my single action could have had such a stupendous effect. I glanced guiltily around to see if a squadron of Blenheims were overhead carrying out a bombing attack, but the sky was empty. Almost all of the trucks had exploded. I circled and watched with mixed feelings of satisfaction and horror. A few men

A Hurricane emerges from the well-camouflaged "hidden" hangar at Tobruk.

the debris of battle in a truck driven by an Australian Wing Commander on Morshead's staff. The general's H.Q. was built into the cliff behind the harbour. Morshead appeared in the door of his office and put out his hand, then beckoned Morley Mower to a chair.

He didn't smile. "You are here because I can't see beyond the perimeter," he said, pointing to a map of the fortress. "Rommel could build up a force of tanks and artillery here and here," stabbing his finger at two points, "and we'd only know about it when it was too late. We'll be especially vulnerable while the 9th Division is being relieved. I don't have any particular worries just now, but I'll call you when I need you. In the meantime, I'd like you to do some work for the artillery."

As "some work," Mower helped the Australian artillery in Tobruk to pinpoint and destroy two German heavy guns that had been particularly troublesome, but it was not until 27 September that he was called on to fly a real reconnaissance mission, a look for a build-up of tanks around Acroma. His last sortie was on October 11.

In all of them, he took off, was airborne, then returned so quickly the *Luftwaffe* could not react—or figure out where he and his plane came from.

Morley Mower returned to his squadron after three weeks—as the only Allied pilot to fly operationally from Tobruk during the siege. He had only flown one gun-spotting and three tactical reconnaissance flights, but his presence had provided an incalculable boost to the morale of the defenders of Tobruk.

David A. Reid

TOP: Matildas of 4th Royal Tank Regiment move up to engage Afrika Korps around Sidi Rezegh. MIDDLE: Crews of the 4th Royal Tank Regiment and Tobruk's 4th South African Armored Car Regiment meet at El Duda, prior to renewed fighting at Sidi Rezegh on November 27. ABOVE: The very day of Mower's reconnaissance coup, General Cunningham was relieved of command of Eighth Army. Lieutenant General Neil Ritchie, here alighting from a Bristol Blenheim bomber after overflying the battle area, took over command, but fared no better against the Desert Fox.

managed to extricate themselves and ran clear of the wreckage. I waited for more but none came. All but one of the vehicles was burning vigorously, white smoke turning to black.

I turned away and headed for Landing Ground 122, hitting the Egyptian frontier just north of the field and following the wire down. After landing, I was waved to the same dispersal. Half of the transient planes had departed, but there were still many Hurricanes on the ground as well as several Blenheims. I switched off the engine and began to unstrap. The P.O. was standing there with a proprietary grin, glad to see his very own Hurricane safely back. I slid the hood to the rear and stood up in the cockpit. Just as I swung my left leg out and was feeling for the first foothold faired into the side of the fuselage, I saw the figures running toward me. With my helmet on, I couldn't hear the shouting, but by the time I'd reached the ground and had slung the parachute over my shoulder, there were 20 people staring at the airframe and talking excitedly.

A glance showed that it had been punctured by hundreds of bullets. The worst area was from behind the cockpit to the tail section. While flying, I'd been conscious mostly of my wing tanks. They extended on either side of the cockpit about four feet along the thickest portion of the wing. Every time the aircraft was refueled, one was reminded of their location as the airman, crouching on the wing, would unlock the panel with a screwdriver and thrust the nozzle in. A few weeks before, a squadron of Messerschmitts had attacked one of our flight commanders, Pat Byers, and set fire to both tanks. He'd managed to escape from the cockpit, through the blowtorches on either side, but died of burns two days later. I thought of Pat as I walked over to inspect the wings. The tanks were untouched, but there were 50 or 60 bullet holes through the ailerons and wingtips.

Most of the spectators were concentrating on the tail section, which had been substantially destroyed. The crowd had swelled to include numerous airmen and a technical flight lieutenant. He told the curious to stand back and, tearing the fabric with his hands, began to inspect the interior. There were so many heads in the way that I could see nothing. The Pilot Officer was standing apart with tears running down his cheeks. He was not sobbing, but the tears were clearly visible and his face was working.

I felt a mixture of sympathy and contempt for him. After all, it was only a bloody aeroplane. Lost in a good cause.

"I'm sorry about your kite," I said, putting my arm around his shoulders. "It can't be helped." But he was not to be so easily consoled.

"I only joined the squadron last month," he said. "I've flown two sweeps. Now my kite's gone."

He was genuinely moved, but like a child is moved, seeing a mere setback as something tragic and irremediable. The Hurricane was his pride and joy. He'd persuaded the rigger to paint his name on it; a silly thing to do in the first place. Then, perhaps, someone in the photographic section had taken a picture of it with himself in the cockpit, looking boyish and warlike. Half of me bled with him; the other half wanted to kick his rear end. I turned away and looked at my map, hoping that my scribbles were decipherable.

All this had only taken seconds. Havelock was eager to drive me to see the general and was shadowing me closely, trying to get my attention. I dropped my parachute under the wing of the aircraft and, map in hand, followed him to his car.

General Cunningham was properly dressed now and was wearing red staff tabs on his khaki battledress jacket. He did not smile but heard me out. I thought he looked very tired, his face grey and worn. Havelock and another staff officer made notes. It was soon over. The general thanked me and said it was vital information. We shook hands. I smiled back at his frozen visage, knowing that this was the pinnacle of

my career as a reconnaissance pilot for the army. I had detected the northward movement of the tank columns, and three hours later our Blenheims were bombing the stuffings out of them, destroying so much armor that Rommel's thrust failed. It did not save the general. Students of the period will know that Cunningham was relieved of his command that day and General Neil Ritchie was appointed in his place.

Back at the aircraft, the technical officer gave me a guided tour of the shot-up Hurricane. The damage was even worse than I had thought. He pointed to the wings.

"You see these holes here," he said. "They're through the main spar. That makes it a write-off for a start. We'll be able to cannibalize a few items and then tow it to one side and put a match to it. You were lucky not to have your fuel tanks pierced. Come and see the tail."

He led me down the fuselage, followed by an admiring group of pilots. The outer skin had now been cut away to reveal the control wires of the rudder and elevator.

"Do you see those wires?" he said.

He looked up at me, grinning, ready to enjoy the expression on my face when I saw the damage.

"The elevators might have held a bit longer, but look here at your rudder controls. This one has only a few strands left."

The P.O. had disappeared. I didn't seek out any other members of his fighter squadron or send a message to his C.O. to apologize for pranging one of his aircraft. There was an all-ranks mess tent where you could get some food. While eating wolfishly, I was approached by a clerk from the signals section who told me that my No. 451 Squadron was assembling at L.G. 75, our longtime base before the push began. I decided not to raise the subject of my stuck-down undercart, lest the zeal of the engineers delay me. I had enough fuel for the journey. By three o'clock in the afternoon, I was tooling sedately westward to join my mates at Sidi Barrani.

It was a day of scattered clouds which cast a pattern of purple shadows on the barren earth. As I approached the coast, the Mediterranean, blue and sparkling, made a dramatic contrast with the austerity of the desert. The line of white surf on the narrow beach looked incongruously pretty, like frilly knickers on a corpse. I loved it. It was home.

Circling L.G. 75 I saw, to my surprise, that the squadron was intact. I counted 10 Hurricanes. The unit Lysander, which we used as a runabout, had also made it back safely. I could identify some of the sections by their familiar shapes: the motor transport section, with its cluster of dispersed vehicles; the photographers with their bulky caravans; the big mess tents. Canvas was laid out on the ground, ready to be erected. The Aussies had recovered smartly from the early morning shock and were ready to fly and fight again.

I flew round and round the airfield, slumped in the cockpit, filled with quiet pleasure and, I must admit, a bit of triumph on my own account. It looked to me as if all the other pilots had flown obediently to our former base and missed a lot of fun. Whereas I, the late-rising dimwit, had stumbled into the thick of things.

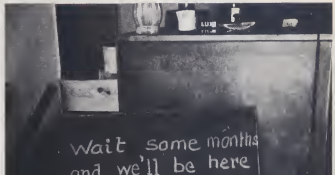
General Cunningham, I thought to myself. What a scoop! Wait till I tell 'em!

A personal sortie for the Army Commander! Stone the crows, they'll say.

What about that borrowed Hurricane? Written off with small-arms fire! And the P.O. shedding tears over its corpse!

Let's face it, a poor old downtrodden reconnaissance pilot doesn't have many such moments. □

Geoffrey Morley Mower retired from the RAF in 1968 as a wing commander. He now teaches English literature at James Madison University in Harrisonburg, Va. As further reading, please try The Desert Generals *by Correlli Barnett or* Rommel: The Desert Fox *by Desmond Young.*



TOP: The Hurricane I's eight .30-caliber machine guns were devastating to German softskin vehicles, but for tanks, the British developed a special "flying can-opener," the Hurricane IID, with 40mm cannon in underwing pods. Aircraft from 6 Squadron are shown here. MIDDLE: 451 Squadron had a lucky escape from Landing Ground 132. Here, Squadron Leader A.D. "Wizard" Williams poses with his adjutant and staff. ABOVE: Tailpiece to a "comparatively clean" war. The Afrika Korps evacuate Benghazi, leaving a prophetic message in a hotel, along with season's greetings.

British artillerymen load up for yet another bombardment against yet another obstacle in their road northward through Italy. Some objectives were tougher than others, one such being Ortona—target of an offensive by the 1st Canadian Division in December 1943.

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Deadly

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They were affectionately called "Ploughjockeys" by their comrades in the big-city regiments, and it was characteristic of their low-key, unpretentious nature that they adopted the sneer as a beloved nickname second only to their own appellation, "Hasty P's". They were the men of the Hastings and Prince Edward Regiment, and formed one of the three battalions of the 1st Canadian Infantry Brigade of the 1st Canadian Infantry Division in Italy in 1943.

Organized for active duty from a prewar rural militia regiment in 1939, the all-volunteer battalion had spent more than three years training in Britain before landing in Sicily in July 1943 as part of General Bernard Montgomery's 8th Army. Since then the Hasty P's had been well blooded in battle and had acquired a reputation for skill, resourcefulness and toughness second to none. Yet, at the Battle of the Moro River, between December 4 and 10, 1943, the regiment would find that all that had gone before was merely a prelude to its greatest battle of World War II.

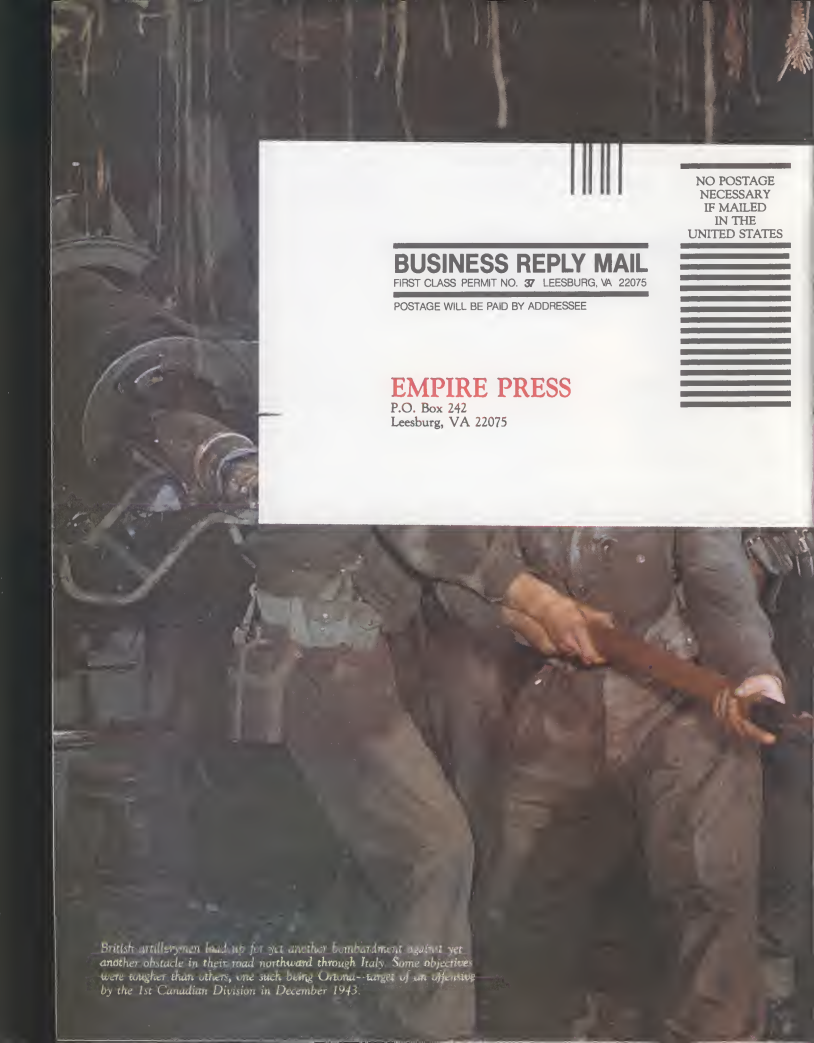
The regiment had just emerged from a period of rest and refit which it had entered in early November following prolonged fighting in the line. Based in Castropignano, a village nestled in the Apennines, the regiment conducted maintenance, ran non-commissioned officer schools, absorbed new replacements, and generally let its hair down. The battalion's soon-to-be-legendary chaplain, Honorary Captain J.S. Fred Goforth, was one of the new officers. In an account he wrote for the regimental history after the war he recounted his first impression of his fellow officers as he arrived late one night.

"A poker game was in progress, and although I was a complete newcomer, and a padre, I was at once invited to sit in. It was the day after an officers' party at Campobasso and several of the senior officers were nursing wounds. One captain had a broken arm, and several of the rest sported black eyes. My first impression of the regiment was that it had a pretty down-to-earth character and, after the Black Watch, I hardly knew what to expect. But I will always remember the way the unit took me in. There were no cold, down-the-nose stares and no questions asked. From that first day I was the Padre, as if I had been born in the unit."

Exemplifying the spirit of the regiment was another "new" arrival, Major Albert Arnott ("Ack Ack") Kennedy. A previous commanding officer of the battalion, Kennedy had been captured in October, escaped, and for 25 days had evaded the Germans until he finally reached Allied lines. His return was timely, for the current commanding officer was ill and unable to command. Kennedy stepped into his boots with ease and it was not long before he was appraised of the situation. The "Red Patch Devils," as the Germans called the 1st Division, were returning to the front to take the point of Montgomery's thrust up the Adriatic coast. The regiment was ordered to move northward to relieve a British infantry battalion in positions on the south bank of the Moro River.

The regiment moved out on December 1 and arrived at the Termoli concentration area on the 3rd. The move had been a long, tortuous experience of trucks slithering along the narrow ribbons of muck which passed for roads, elements getting stuck in traffic jams, and men reverting to the foot march when the trucks could go no farther, all under leaden overcast skies which drenched the column with cold winter rains. The men had no respite from adversity.

The following day Kennedy reconnoitered the Moro. What he found was a river obstacle typical of the Adriatic coast—steep banks facing each other over a sluggish river. Both precluded tank passage, but good infantry could negotiate the banks and ford the river. On the north (or left) bank, fresh German troops occupied well-prepared defensive positions. These were the motorized infantrymen of the 90th Panzer Grenadier Division, with a hefty complement of tanks, self-



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British artillerymen load up for yet another bombardment against yet another obstacle in their road northward through Italy. Some objectives were tougher than others, one such being Ortona--target of an offensive by the 1st Canadian Division in December 1943.

Deadly River Bank

At the Moro River in Italy, the "Hasty P's" showed why their tenacity and skills would earn more World War II battle honors than any other Canadian Army regiment. These "Ploughjockeys" would acquire a reputation for toughness and resourcefulness second to none.

By Robert D. Bradford

They were derisively called "Ploughjockeys" by their comrades in the big-city regiments, and it was characteristic of their low-key, unpretentious nature that they adopted the sneer as a beloved nickname second only to their own appellation, "Hasty P's". They were the men of the Hastings and Prince Edward Regiment, and formed one of the three battalions of the 1st Canadian Infantry Brigade of the 1st Canadian Infantry Division in Italy in 1943.

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TOP: Lying near the Adriatic Coast, Ortona lay along typical terrain—steep banks on either side of the sluggish Moro River. Facing the Canadians was the well-entrenched 90th Panzer Grenadier Division. ABOVE: Captain A.H. Oliphant, 1st Canadian Division, directs traffic past his halted convoy on the main road toward the Moro River.

propelled guns and half-tracked vehicles.

That night and during the next day, the regiment conducted a risky daylight relief-in-place operation which finished at 7 p.m. To its right was the Adriatic Sea; on the left were the 48th Highlanders of Canada; and in reserve was the Royal Canadian Regiment. To the front was the valley of the Moro, ranging in width from 300 to 500 yards. A road snaked down the bank before the battalion's left, crossed the river (although the bridge had been demolished) and snaked up the enemy bank before disappearing over the horizon. In the center the river looped toward the near bank. To the far right, an unusable railroad bridge crossed the river where it emptied into the Adriatic. This was the setting for battle.

The division plan was now known—Maj. Gen. Chris Vokes, the division commander, had devised a two-phase operation. The main effort would be mounted by the 2nd Canadian Infantry Brigade (CIB) well off to the Hasty P's left at a place called San Leonardo. At midnight on December 5, 2nd CIB would mount a deliberate assault crossing, capture San Leonardo and establish a bridgehead for the main division axis. First CIB, under Brigadier Howard Graham (a former Hasty P commanding officer) was ordered to mount a diversionary operation some time before midnight to draw enemy forces away from 2nd CIB's area. Graham selected his old Hasty P regiment for the task and advised Kennedy that he could rely only on battalion resources. No artillery support would be available.

At 8 p.m., only 60 minutes after the last of the battalion had settled into new positions and with daylight waning, the first reconnaissance patrols passed through friendly lines and slithered into the valley of the Moro. A suitable ford was found and Kennedy finalized his plan. This was, the unit's war diary recalls, "to push one platoon across, establish it firmly, then follow up with the remainder of the company, gain the lip of the valley and, moving the remainder of the battalion across, consolidate for the night." A silent approach was decided upon, with Captain Paul O'Gorman's Able Company at the lead. The battalion's 3-inch medium mortars were to support the crossing, while the Pioneer Platoon (the battalion's integral engineers) moved to prepare the demolished crossing in the hope of allowing heavier equipment to move across shortly.

At 9 p.m., with enemy artillery shells dropping into the battalion area, the regiment moved into the muddy valley. In front loomed an embankment well prepared for a stout defense by an enemy with medium machine guns, lesser small arms, mines, a small amount of barbed wire, and predetermined artillery concentrations. The enemy consisted of fresh troops of the 361st Panzer Grenadier Regiment.

At 10 p.m., the leading platoon of "A" Company crossed the Moro, wading waist-deep in the icy-cold water. The other two platoons climbed the far slope as far as the top of the enemy-held left bank. Unfortunately, the platoon commander then found his radio was broken—he was unable to call the rest of the company over. The main body, meanwhile, had waded over of its own volition and was crossing the exposed killing zone on the far side of the river.

The Germans, however, were aware of the shadows creeping silently into their previously prepared fields of fire. First one, then a multitude of *maschinengewehr* opened fire. In a single instant, the eyes and ears of the Hasty P's were overwhelmed—the black night was ripped by muzzle flashes and scratched by tracer lines. Flares popped overhead and hung suspended over "A" Company as German machine-gunners and mortarmen opened fire. The exposed Canadian riflemen had little choice but to hit the dirt and cower in the slick mud. The regimental historian later estimated that some 20 machine guns were sited to cover the crossing, and they delivered what he called a shimmering curtain of fire.

Members of the 48th Highlanders, 1st Canadian Division, prepare to attack at San Leonardo di Ortona on December 10, 1943. Lt. T. MacDonald holds binoculars; other troops are (l to r): Pvts. A.R. Downie, O.E. Bernier, G.R. Young; Corporal T. Fereday, Pvt. S.L. Hart.

The rest of the battalion watched helplessly from the south bank, their medium mortars silent and untargeted because Able Company's radio had also stopped working. The Pioneers, who might have hoped to benefit from all the attention given Able Company, were forced back to the south bank by machine-gun fire.

Across the river, Able Company clung to the left bank, feebly engaging the enemy the best it could, until 1 a.m. Major Kennedy, deciding that the diversion had done all it could and had been sustained long enough to allow 2nd CIB to launch its attack, ordered Able Company to withdraw. Stunned by the heaviest weight of fire it had ever seen, the regiment slumped in its slit trenches for the night, wary of enemy counterattack.

The battalion had successfully completed its mission, and now, throughout the night, the Ploughjockeys listened to the sounds of hard fighting echoing from San Leonardo. By the next morning, 2nd CIB had still not consolidated its bridgehead but was instead locked in bitter battle with the Germans. Kennedy's mind was active throughout this period, and he decided to visit Brigadier Graham at Brigade HQ. There he explained that the regiment had learned much from the diversionary crossing the night before. The Ploughjockeys knew the ground and the location of enemy positions. If fire support were forthcoming in the form of artillery and tanks (particularly as the element of surprise was lost), Kennedy insisted the regiment could cross the Moro again, establish a bridgehead and hold it against the enemy.

Graham agreed and provided Kennedy with the guns of the 2nd Field Regiment, Royal Canadian Artillery (two 12-gun batteries with 25-pounder gun/howitzers); a company of 4.2-inch heavy mortars from the divisional machine-gun battalion, and a squadron of British tanks.

The latest plan was straightforward: At Zero Hour (set for 1 p.m.) Charlie and Dog Companies would establish a bridgehead, after which the remainder of the battalion and the supporting tank squadron would cross and reinforce the pocket. Aggressive yet cautious, Kennedy set the administrative and logistical elements to work improving road communication to the south bank (to allow reinforcement from rearward units) and digging alternate defensive positions.

Zero Hour was amended to 2 p.m. At 1:40 the 25-pounders opened fire and plastered enemy targets on the river's north bank and the plateau beyond. At Zero Hour, Captain Les Yates led Charlie Company across the Moro, and the "shimmering curtain" again descended on the Ploughjockeys, soon joined by enemy artillery and mortar shells. The 4.2-inch and 3-inch mortars immediately switched to smoke shells to screen Charlie Company while Kennedy, standing on a knoll on the south bank, followed its progress. Before long, the company's advance staggered to a halt and at 2:30, Kennedy ordered Dog Company across. By 3:30 Dog was across but Charlie was completely pinned down, with Captain Yates mortally wounded. Then, almost predictably, both companies' radios failed, leaving them cut off from Kennedy on the south bank.

The valley was now a maelstrom of swirling smoke and dust, punctuated by streaks of tracers and geysers of exploding earth. Kennedy assumed the worst and, at 3:40, ordered both companies to return. Dog Company, however, could not comply because it could not receive the order. Unknown to anyone else, Dog had penetrated the center of the enemy positions and overshot the top of the enemy bank, spilling onto the plateau beyond, only 30 minutes after crossing the river. Dog's platoons, the unit historian later recalled, were "running hog-wild in the center of a disorganized enemy position." Only enemy armored vehicles were able to push Dog's men off the plateau and onto the slope of the enemy bank again. Charlie, meanwhile, received Kennedy's withdrawal message and fell back.

Having agonized over his decision to withdraw, Kennedy was now faced with possibly losing Dog Company. This he would not accept—either everybody was coming back, or everybody was going over. He ordered the dismounted infantrymen of his Carrier Platoon to cross the river to make contact with Dog. Able and Baker were then ordered to move across and slice through to the far bank. At 4:30, only 50

TOP: Smoke from German shellfire cloaks Canadian tanks assaulting San Leonardo on December 8. MIDDLE: Major General Chris Vokes, G.O.C., Brig. Gen. Hoffmeister and Brig. Gen. Wyman confer during the Moro River operation, December 8. ABOVE: During a lull in the German counter-attack at San Leonardo, Privates J. Miller and W.H. Hall dig a new slit trench on December 8.

minutes after issuing his original order, Kennedy led his entire battalion across.

Enemy fire intensified. Dog made contact with the Carrier men and dug in to protect the left flank. Able and Baker struggled through to the plateau, only to be pushed onto the slope again by German armor. By 6 p.m., however, the bridgehead was established, measuring 500 yards across and 600 yards deep. There were still German troops trapped in the perimeter, but the steep slope at least protected the Hasty P's from the tanks and self-propelled guns on the plateau beyond. The Ploughjockeys had no hope of commanding the plateau with small arms alone and worse, a contact patrol soon reported that the supporting British tanks were bogged down in the valley and could not join the battalion.

In the wet, chill night that now descended, the Ploughjockeys were left to their fate. The Germans pounded the pocket with artillery and mortars, their cut-off detachments also harassing the Canadians from within, while still others infiltrated the fluid lines to disrupt the consolidation. "It was the kind of night men dream about in the after years, waking to a cold sweat and a wild surge of gratitude that it was but a dream," wrote the unit historian, Farley Mowat, who was there. "The darkness was violent with sound, and chaotic with confusion."

On the south bank, the Regimental Sergeant Major (RSM) Warrant Officer Class I Angus B. Duffy—the battalion's senior non-commissioned officer—stood and anxiously questioned each messenger returning from the bridgehead. He had been put in charge of preparing the alternate defensive position, but he chafed at not being allowed to perform the RSM's usual duties of controlling ammunition supply, defending the forward battalion headquarters, and generally "kicking butt" to stiffen the spirit of the regiment. Finally, after an anxious period of trying to figure out a way of circumventing his commander's orders, Duffy took an ammunition driver with him and proceeded to the river with eight bottles of rum.

"I knew any sin would be forgiven," he said later, "if I were to appear with eight bottles of rum in tow, no matter what the circumstances."

At the crossing, Duffy ran into his former boss, Brigadier Graham. In spite of great pain caused by a duodenal ulcer, Graham had crossed into the bridgehead early in the battle and stayed with the forward platoons through the first attacks. When he bumped into the rum-toting pair, Graham told Duffy the unit was in an extremely difficult position, and this gloomy assessment alarmed Duffy. "I believe this was the first time I ever heard Howard Graham admit that things were not just okay," Duffy recalled. To his delight, Graham then said, "You get across to Kennedy and tell him I sent you."

Despite the immense confusion in the bridgehead, Duffy found his CO. Kennedy told him that the ammunition and food situation was critical and ordered him to return to the rear battalion headquarters on the south bank to organize supplies. Well aware of the danger of crossing the valley in daylight, Duffy hoped to bring supplies over before dawn. Furthermore, having blocked the passage of tanks, the Moro naturally blocked the passage of motor vehicles. Duffy had to assemble a mule train, complete with muleteers on loan from the Indian Army, in order to get the required commodities into the bridgehead before dawn.

Unfortunately, it was daylight when his mule train reached the river. Machine-gun, artillery and mortar fire continued to make the valley a veritable hell on earth. The far bank was even worse. Having crossed the river, Duffy tried two or three times to ascend the steep bank beyond, but each time was driven back by machine-gun fire. As he hugged the earth, Ma Hildreth, a Canadian muleteer, approached and suggested that they couldn't allow their Indian comrades to "think we are too frightened to go ahead with this food to the troops."

Spurred anew, the two Canadians linked the reins of the lead mule through their arms, dropped to their bellies and crawled, pulling the hapless mules through a particularly exposed area before standing again. Men and mules then continued to their destination. In fact, the inauguration of the mule train ended the isolation of the battalion on the far bank and established a well-oiled machine for its sustenance. A price was paid, however, with several mules and attendants killed before the battle was over.

Twenty-eight officers and men had been wounded, and five killed, but the bridgehead was secure, however tenuously. December 7 was relatively calm, allowing time for consolidation. The mortar platoon brought over two 3-inch mortars and planted them in a quarry dug into the north bank. The mortars were invaluable, and before long would be firing so much that the mortarmen would urinate on the barrels to cool them. Medium mortars, heavy as they are, can be man-packed and the platoon was trained to do just that.

What was more spectacular was the sight of the antitank platoon manhandling two 6-pounder antitank guns across the river. These weapons weighted over 2,500 pounds each and were normally moved by tracked carrier. The old proverb that "necessity is the mother of invention" prevailed, however, when Kennedy decided that the defense and expansion of the bridgehead was impossible unless the guns could counter the armored vehicles on the the plateau. The night before, he had ordered Captain Stan Walker to send a gun over the river. How he would do it was his problem. Antitank gunner Bob Bates remembered the task clearly: "We [reconnoitered] a route down the steep slope of the [south bank] of the river and dug a trench about a foot wide down the side of the hill to keep the gun from sliding down the steep grade. When we got to the river, we had to dig the bank down on both sides to break the sharp drop and let the gun down easy on one side and out the other. There were about 20 of the antitank platoon in this exploit so far. . .The antitank platoon got the gun as far as the vineyards. . . at the bottom of the [north bank]. It was impossible for this few men to pull the heavy gun at that point and assistance was requested from Charlie Company. . .The response came from the indomitable Sergeant Major Ponsford. Up to this point, the entire maneuver had been conducted with the utmost quietness but Ponsford soon changed that. They had long ropes pulling the gun, and every time Ponsford yelled 'heave' in his loud bull-like voice, not only did the boys pull, but Jerry threw mortar fire in."

With much sweat and many curses, the 6-pounders were lugged up the steep bank and emplaced in Able Company's area. (At this time, the 6-pounder was a good match for the Pzkw-IV tank employed by the 90th Panzer Grenadier Division.) The saga of the guns is still a legend in the regiment. A captured German officer refused to believe that a 6-pounder had been manhandled across the river and "was most amazed to see that it was actually there." Other regiment accounts suggest that at least one gun was "knocked down" and reassembled on the far side of the river.

Time was working to the regiment's advantage. Wheeled transport could now move as far forward as the south bank. Elsewhere, however, the news was bad. Second CIB was experiencing extreme difficulties establishing a bridgehead, and its battalions were withdrawn to consolidate and shorten the brigade's frontage. By midnight on the 7th, the Hasty P's were the only Canadian troops on the far side of the Moro. "What had started as a diversionary crossing on the Division's flank," the Canadian official history states, "was assuming increasing importance. It was the retention of this

BATTLE PLAN FOR ITALY

When the Hasty P's were committed to battle at the Moro River, they were fresh troops in an old battle. The pattern of the fighting had already been determined earlier in the autumn of 1943, when Hitler decided to defend Italy south of Rome in order to preserve the political and psychological advantages implicit in the continued possession of the Eternal City.

Under General Albert Kesselring, German forces had skillfully withdrawn during the fall months to the Bernhard Line, an 85-mile defense belt stretching from Ortona on the Adriatic coast to Gata on the west coast. This was where the Germans intended to make their first firm stand, hoping to fight the Allies to a standstill for the entire winter.

The Allies had also decided on a policy for the campaign in Italy. After much thought and consideration, they decided to retain the initiative in Italy. As their main objective, they selected the capture of Rome for the same reasons as the Germans: Rome was an Axis capital, the capture of which would enhance Allied prestige and diminish that of the Germans.

Rome lent credibility, and Rome offered certain tactical and strategic advantages, such as all-weather airfields desired by the Allies' strategic bomber forces.

General Bernard Montgomery's British 8th Army would advance up the east side of the Italian peninsula along the narrow plain squeezed between the mighty Apennines and the Adriatic Sea. After certain preliminary and diversionary operations, the 8th Army was to crack the Bernhard Line on the River Sangro, then launch the main offensive along the coast to the Rome-Pescara highway. Hoping to capture a length of highway, it could then threaten the communications of all German forces facing the U.S. 5th Army south of Rome. Mark Clark's 5th Army, which landed at Salerno on the west coast in September 1943, at this time would be executing the second phase. This called for the 5th Army to advance northward through the Liri and Sacco Valleys to a point only 50 kilometers south of Rome.

The third phase called for a division-sized amphibious "end run" south of Rome. (This phase later became the much larger Anzio landing operation.)

Bitter fighting greeted both the 5th and 8th Armies that autumn. The 5th Army was ordered to stop in mid-November, its elements exhausted by the hard fighting in the mountains and the miserable winter weather. The 8th Army fought a bitter battle at the River Sangro, first establishing a tenuous bridgehead, then consolidating within before expanding it as a base for General Montgomery's main offensive.

This attack was launched on November 28, and within two days literally smashed the German defenses on the Sangro.

In spite of constant logistical difficulties caused mainly by the poor roads, the advance continued to the Moro River.

The Moro then was crossed at two points, one for the Canadian axis (which is the subject of this article) on the coast and the other somewhat farther inland.

The Canadians subsequently fought an extremely bitter battle for the town of Ortona that Chrismas, but the offensive finally ground to a screeching halt shortly thereafter. The year 1944 would have to be the year of decision for Rome.

TOP: As the 1st Canadians gain a foothold over the Moro, the first German prisoners are ordered to turn out their pockets. MIDDLE: Captain F.M. Ritchie, Adjutant of the 14th Canadian Tank Regiment, climbs down from a straw-camouflaged Sherman at San Leonardo. ABOVE: A file of German prisoners is escorted to the rear by 1st Canadian Division soldiers, December 8.

bridgehead between the coast road and the sea that eventually led to the successful crossing of the Moro."

Kennedy, meanwhile, had left the bridgehead to visit his brigadier's headquarters. There he learned that Vokes had planned a two-phase operation. First, 1st CIB would capture San Leonardo and secure a crossing for the divisional axis. In the second phase, 2nd CIB would be launched through the 48th Highlanders' bridgehead onto the plateau beyond the Moro.

Kennedy returned and ordered Able and Baker Companies to push a platoon each over the lip of the escarpment. From those new positions, the two platoons dominated the coastal road and a lateral road which branched from it and led to San Leonardo. The 48th Highlanders of Canada planned to cross up-river and attack San Leonardo. The Royal Canadian Regiment (RCR) was to enter the Ploughjockey bridgehead and attack down the lateral road across the enemy's front toward San Leonardo. The Hasty P's were to hold their bridgehead as the firm underlying anchor for all.

The Germans by now had identified—incorrectly—the Hasty P bridgehead as the main Canadian effort. One hour after midnight on December 7, the Panzer Grenadiers launched the long-awaited counterattack. After an intense artillery and mortar bombardment, a strong enemy force smashed against the two forward platoons. The Baker Platoon held, but the Able Platoon was forced back onto the slope, skillfully withdrawing into a salient between Able and Baker Companies. It was a trap. A fusillade of rifle and Bren gun fire tore into the enemy force, killing more than 40 Panzer Grenadiers. Twenty more were captured. Stiff fighting followed, but the Germans eventually withdrew, only to be hounded by the 3-inch mortars firing from the quarry.

Zero Hour for the 48th Highlanders' and the RCR's attacks was 4:30 p.m., December 7. An intense bombardment by artillery, mortars and medium machine guns preceded Zero Hour. The 48th Highlanders crossed the Moro up-river and entered into a glorious chapter of their own history.

December 9 was the final day of the battle. At 1 a.m. the Germans launched another strong counterattack against the bridgehead, with Baker and Able Companies again taking the brunt. The enemy was allowed to approach to within 150 yards, at which point the defenders opened fire and hosed streams of .303 ball and tracer ammunition into their ranks. The rifle platoons' 2-inch mortars joined in, while the 3-inch mortars bombed the enemy's reserve companies, thus preventing them from reinforcing the assault group. Thirty prisoners were taken, and many dead were again left on the field.

Sporadic shelling continued until 11 a.m., when a squadron of Messerchmitt Bf-109 fighter-bombers attacked the Canadian battalion's forward positions. At 3 p.m., the enemy again counterattacked. "A heavy enemy artillery barrage covered their attack on our positions but did not succeed in reducing our forward defended localities," the Ploughjockey war diary later would state.

The Germans pressed home their attack with stubborn ferocity. On Baker Company's perimeter, the enemy established a strong point dominating the company front. The company commander, Captain Frank Hammond, was jolted by the discovery of the strong point and sprang into immediate action. With one section providing covering fire, Hammond and Warrant Officer Class II Cecil N. Yearwood raced over fire-swept ground and stormed the strong point with only their Thompson submachine guns.

Such fierce fighting was to be found all along the perimeter. At his position, Sergeant Gordon Pemberton was stunned by a bomb which exploded nearby. In spite of the concussion, Pemberton recovered and forced himself to concentrate on the situation around him. Fearing an enemy attack on his locality, Pemberton took a Bren light machine gun and

In another trans-river action, tanks of General Burns' Canadian Corps move up the Liri Valley toward the Melfa River. In the foreground, the forlorn remains of a downed Douglas A-20 Havoc bomber attest to the enemy's tenacity.

crawled 350 yards to a spot from which he could command the approaches to his section's position. He had barely settled in when a German force started its attack. Pemberton opened fire with the Bren, killing 15 of the enemy before the remainder withdrew in shock.

Yet the Germans continued to fight with stubbornness and skill, penetrating even to the forward battalion headquarters, located in the quarry near the 3-inch mortars. RSM Duffy and a young radioman named Tommy Cornell were in the quarry with a growing number of German prisoners.

"The Germans," Duffy recalled after the war, "came in on a very close attack on us . . . and young Tommy Cornell, who was just moving off with me with a wireless set, spun around and sat down looking rather silly . . . I thought sure he had been killed, but actually what had happened was that a bullet had gone through his wireless set and really jarred him. Tommy pointed up over my shoulder and we looked around, and there was a German leaning against a building, very coolly shooting at the two of us. Naturally, this war was getting too personal and, unfortunately, I did not have any weapons in this hole to fire back at him with the exception of a revolver. I tried several times to get out of the hole to get some of the rifles which were laying around, which we had taken from the German prisoners, but each time I went to move the guy took another bang at me. Eventually, I did take the revolver and fire four or five shots. I know darned well I did not hit him but he disappeared and the attack was over for us."

By 8 p.m., the counterattack—or more correctly, a series of counterattacks—subsided. The regiment estimated enemy losses at 170 dead and wounded, and 50 prisoners. With darkness, the shelling began again. It had been a good day for the Ploughjockeys, but a black one for the RCR. The enemy counterattacks that afternoon again coincided with the Royals' attack, which was foiled with severe losses. It was the end for the RCR on the Moro, and the Royals withdrew to the south bank to lick their wounds.

The last major counterattack had been mounted, but after repulsing 11 major assaults in the last 36 hours, the Ploughjockeys had no way of knowing this. Padre Goforth managed the first proper burials since the bridgehead had been established. The mule train, in addition to the normal ammunition and food, brought the men's greatcoats and blankets. They had fought four days in the wet Italian winter with only their basic uniforms, sweaters and gas capes.

It had been a momentous battle. On December 9, the diarist at division headquarters wrote: "This day will be remembered by the 1st Canadians for a long, long time. We had our first real battle on a divisional level with the Germans."

Indeed they had, and against a very capable enemy: Men of the 3rd German Parachute Regiment had been captured in the late stages of the battle, in addition to the Panzer Grenadiers. More importantly, Montgomery's advance along the coast could proceed. That it later foundered north of Ortona in no way detracts from the magnificence of the division's efforts at the Moro River. And certainly this in no way reflects on the tenacity and skills of the Hasty P's, who, by the war's end, would earn more battle honors than any other single regiment in the Canadian Army. □

Robert D. Bradford writes from Belleville, Ontario, Canada. As further reading, please try: The Canadians In Italy *by Lt. Col. G.W.G. Nicholson (Ottawa, Queen's Printer, 1956);* The Regiment *by Farley Mowat (Toronto, Macllelland and Stewart, 1955).*

As the Japanese swept south, Australia faced her peril with miles of defenseless shores. . . and not much else.

By Richard P. Montpelier

For the few Americans fortunate enough to escape the fall of Bataan and then Corregidor in early 1942 (story, Page 26), the first welcoming port of call often was Darwin, on the northern coast of Australia. Even Douglas MacArthur found initial sanctuary there, and it was at Darwin that he issued his famous pledge to the Philippines: "I shall return."

He did, and Australia would be the springboard for the long, hard campaign up the Pacific ladder that finally accomplished the feat.

But Darwin and northern Australia in the first, grim days of the war were not always the safe sanctuary one might suppose. Just a few weeks before America's General MacArthur passed through, Australia had suffered its own "Pearl Harbor"—at Darwin.

In between raids, mechanics maintain Nakajima B5N bombers aboard a Japanese aircraft carrier. One of their less expected targets in February 1942 was Darwin, Australia.

The bombing of Darwin and the shadow of possible Japanese invasion are amply recalled in a new book from the Melbourne University Press, *The Shadow's Edge: Australia's Northern War,* by Alan Powell (distributed in the United States by International Specialized Book Services of Portland, Oregon).

For all its size and apparent resources, Professor Powell reminds, Australia at the time was dangerously vulnerable, especially the sparsely settled, totally undefended Northern Territory.

The better part of Australia's armies were gone, off fighting the Germans in North Africa. The Japanese, after seizing Malaya, invading the Philippines and swarming through the Southwest Pacific, had now assailed the Dutch East Indies. The northern rim of Australia loomed nakedly ahead as they prepared to land troops on Timor.

"For the first time in the history of European Australia, some part of its people faced the full impact of modern war," notes author Powell.

The first—and major—blow to fall upon Australia proper came at Darwin on February 19, 1942, just a month before MacArthur and his party would land there in two American B-17s. In terms of World War II, the 243 lives lost would not rank as a catastrophe; in terms of Australia's own history, though, that loss in lives alone would rank "as Australia's worst disaster."

More significant, the Japanese apparently thought Darwin was a major Allied base, and they amassed a Pearl Harbor-like blow to deal with the perceived threat. Indeed, they mounted a naval task force for the job led by the commander of their attack force at Pearl Harbor and consisting of four out of the six aircraft carriers that had assaulted Pearl Harbor.

They chose February 19 for their blow in order to neutralize Darwin on the eve of landings on nearby Timor, scheduled for the next day. Darwin for many weeks had been a thorn in the side as an intermittent staging base for American and Australian warships and aircraft that so futilely had been fighting the losing battle of the Pacific.

Darwin had seen many of those war machines come and go, true, but it was a small port city with only the most basic of military facilities (and few defenders). No Gibraltar or Singapore, it had seen a growing volume of military traffic simply because, geographically, it was on a protruding thumb of the northern coastline. As author Powell amply makes clear, little had been done to strengthen Darwin, despite its obvious exposure to the onrushing enemy.

The Japanese sledgehammer going after this gnat would consist of 36 Zero fighters, 71 Val dive-bombers and 81 Kate bombers. They would find 45 ships crowded in Darwin's harbor, but many were mere merchantmen with no real war-making capability.

As at Pearl Harbor, however, the devastation was nearly complete. As at Pearl Harbor, the defenders of Darwin had also received warnings of the approaching armada.

But again like Pearl Harbor, many of those spotters' reports went awry—few who received them reacted with any understanding or alacrity. As at Pearl, some thought the approaching aircraft were an expected flight of friendly aircraft. An *outgoing* one, headed for Java!

All three armed services received some warning, Powell recounts, but the Navy and Air Force personnel bobbled theirs, and only the Army alerted its antiaircraft crews. Minutes later, a crewmember on the American destroyer *Peary* looked up, saw approaching planes and said: "Oh, well, Roosevelt hasn't let us down. He promised us air supremacy in the southwest Pacific in 30 days. There it is."

As at Pearl Harbor, the "friendlies" were Zeros, and in seconds the devastation began. The air supremacy was entirely Japan's.

The story goes on: Civilians and military personnel trying to cope. . . the few pilots based nearby running for their few aircraft. . . the inevitable investigation taking place afterward.

Unlike Pearl Harbor, the Darwin at-

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tack was not the last on Australian territory. While the full ramifications were hushed up, the northern coast remained soft and defenseless, miles upon miles of uninhabited shoreline.

In March, though, the triumphant Japanese had to consider their next step—to occupy Australia as the Imperial Navy urged, in order to forestall the coming American counteroffensive. Or consolidate the breathtaking gains already won, as the Army preferred? The Army simply didn't have the 10 divisions considered necessary to carry out the Navy's plan.

As Powell notes, the decision went against the Navy—the Japanese moved east, into New Guinea, Fiji and New Caledonia, rather than south, upon Australia. Australia's "Northern War" raged on for some time anyway, but the citizens of Darwin might be excused for wondering, even now, what if. . .what if those 10 divisions had been available?

In any case, author Powell, Dean of Arts at the University College of the same Northern Territory, writes a good book—full of detail, ample quotes from onlookers and participants, plenty of overview. In all, a surprisingly busy history about an aspect of World War II that was little realized even among Australians themselves.

The eye opener is not that there was a war going on, but how much of the war at that stage was raging at the northern edges of Australia.

Scholars in Foxholes, The Story of the Army Specialized Training Program in World War II, *by Louis E. Keefer (McFarland & Co., Inc., Jefferson, N.C., 1988; $24.95).*

Just before World War II erupted, the U.S. Army had to decide enlistment priorities in the event of American involvement. Should it stress quality or quantity? Leadership and technical proficiency, or just plain manpower? These considerations still had not been resolved when the United States was plunged into the conflict on December 7, 1941.

One result was the Army Specialized Training Program (ASTP), which came into official existence on December 17, 1942. Through this program, young men able to meet the intelligence requirements were sent to colleges to be trained in engineering, languages and numerous other technical skills. The U.S. government thus provided the funding necessary for the wartime survival of many American colleges and a college education for many bright students who might never have been able to afford it otherwise. Upon graduation, the ASTP soldiers, in turn, would provide the Army with a new cadre of officers and technically skilled personnel.

During their time in school, they were subject to checkered regard—as "slackers" from the real fighting (which some themselves felt) and as the vanguard of an army of superior quality.

Subject to controversy from its inception, the ASTP was canceled in February 1944, the victim of ill-defined program objectives, a shortage of manpower due to unexpectedly heavy battlefield attrition—particularly in Italy—and the Selective Service System's failure to meet its 1943 draft quotas. The departing army students would be sorely missed by the depleted colleges and not a few coeds.

The ASTP "quiz kids," few of whom had completed their training, were assigned, all too often, to duties where their background would not be brought into play, sometimes in specialties or locations ludicrously irrelevant to their fields of study. About 80,000 of them were simply assigned to infantry or other combat units, where those who survived in the first engagements often went on to acquit themselves with outstanding courage in some of the war's bloodiest battles—most notably, the Battle of the Bulge.

One of these soldier-scholars was author Louis A. Keefer, whose *Scholars in Foxholes* has combined research of recently declassified government documents with the recollections of more than 200 fellow ASTP veterans to present a balanced survey of the program and of the military activities of its ill-prepared trainees after ASTP's demise.

Along with an insightful study of the ASTP program are the personal accounts of the exploits of the story's main protagonists, the students themselves, often adrift in the world of Army SNAFU, much less the battle fronts.

A few familiar names appear among the alumni: Private Henry A. Kissinger, who read his books and disagreed with them out loud, to the annoyance of his roommates. Later he would get his chance to set the world aright as Secretary of State to President Nixon.

Edward I. Koch, the "talkative high school egghead," fought in Holland with Company B, Second Battalion, 415th Regiment, Timberwolf Division, long before taking on the tougher assignment as mayor of New York.

Gore Vidal deliberately flunked out in order to choose an assignment in the Air Force and later the Transportation Corps in the Aleutians, prior to achieving literary fame. John D. Hawk was an ASTPer who, during the Battle of Falaise on August 20, 1944, won the Congressional Medal of Honor. Along with these few are detailed stories of many other survivors, many of whom were also decorated for heroism—and of all too many who did not survive.

Jon Guttman

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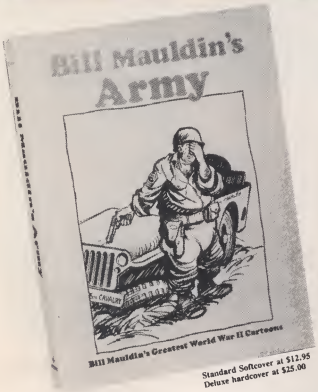

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Continued from page 10

ing World War II, the Army would not adopt any service-wide program using Indian "talkers," considering them too great a liability for secure communications. "Captured Indian personnel might be forced to introduce false messages into a net employing Indian linguists," cautioned one study. Still, individual U.S. Army units did employ Indians in Italy and Germany. Other American services thought differently, however.

In the Pacific theater, U.S. Naval air commanders needed fast, secure communications between various airfields to coordinate fighter aircraft escorts, bomber strikes, and fighter defense. Following an informal test using two Creek Indians, the Navy's South Pacific Command requested 24 well-educated American Indian soldiers who spoke the same dialect.

In January 1944, Admiral Aubrey Fitch, Commander Aircraft South Pacific Force, reported to the Commanding General, South Pacific, that of the first 10 Indians to report for duty, two were selected to receive communications training. The two Indians, both Navahos, were trained to pass messages ordering out planes and sent detailed information such as plane types, numbers, bomb loading instructions, times at rendevous points, courses and bearings. Since their language did not permit direct translation of the English messages, three codes were employed using words familiar to the Indians as code for plane types, geographical names and a few miscellaneous words. The result was rapid, accurate and secure transmission of messages that previously had required hours of encoding and decoding.

Since Admiral Fitch did not expect the Indian transmissions would remain secure for more than a month or two, he requested 24 more Indians from an eastern tribe as replacements for the two previously accepted Navahos. The second increment of 14 Indians produced only four suitable for the tremendous signal task—by now, it appeared that finding well-educated Indians versed in a similar language or dialect would be a major problem. Indeed, most Indian tribes did not have a large enough population with the requisite language skills. As one result, the naval operation was handicapped by the inability to place more than one qualified man at each station, with no reserves to fill in, in case of illness or even the establishment of new stations.

While the use of Indians was gaining acceptance, the concern of higher headquarters was that the use of Indians as communications personnel should be

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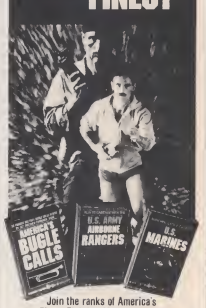

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Corporal Lloyd Oliver mans a radio for an artillery unit in the South Pacific. Besides being a valuable signal expert, Oliver was a successful scout and sniper.

limited to tactical situations where information, if intercepted by the Japanese, could not be acted upon in time to influence the situation in question. The use of Indian dialect in place of bonafide code systems for very sensitive communications was not authorized.

Although the Navy was finding a growing use for the Indians, the Army remained skeptical. Personnel of the Army Security Agency, the codes and ciphers specialists regarded use of Indian dialects as a breech of security in military codes and ciphers. The Army was concerned that the Germans had been studying American Indian dialects, while prior to the outbreak of the war, Japanese personnel had been employed by the Interior Department's Bureau of Indian Affairs (BIA). For some 20 years prior to 1941, German students of science, anthropology, religion and art, had been studing various American tribal dialects. German and other foreign diplomats were among the BIA's chief customers in the purchase of publications dealing with American Indian tribes.

The American Indian languages in question are holophrastic, expressing a whole phrase or sentence in a single word, or polysynthetic, combining several words of a sentence into one word. In the original form, Indian languages possessed no alphabet or written symbols of speech, and they were passed from generation to generation in the spoken form. Outsiders studing these languages and dialects had to hear the spoken communication. Another dimension to Indian languages are the phonics, the articulate sounds of the language. The tones and intonations had developed to such an extent through the use of inflections that over time many different meanings can be given to the same word.

With such factors in mind, the U.S.

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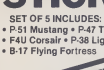

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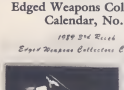

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These eight Navahos of a Marine signal unit on Bougainville were privy to an exclusive linguistic secret, and clearly ready to guard it.

Marine Corps would become the war's most extensive user of Navaho Indian communicators.

The Corps selected Navaho as a code language because before the war the Navaho tongue was regarded as a "hidden" language known only to 28 outsiders, all of whom were missionaries, students of Navaho culture, or people who had been born and raised in Indian territory. Furthermore, the Navaho's as a people, were relatively confined to their native territories because of a traditional clannish reservation life. They comprised the only major Indian group in the United States whose reservation had not been exposed to German students. And finally, the Navaho tongue is an extremely difficult language to master. Should a non-Navaho learn to speak it, replicating its tones, intonations and inflections would be nearly impossible. The words must be produced with a precision difficult for any adult outsider to master, particularly because of the complexity of the Navaho verb form.

While the Navaho language did not include military terms such as jeep, battery, aircraft or flank, those and many place names, such as Iwo Jima or the Solomons, could be improvised by spelling out, letter for letter, in a Navaho phonetic alphabet. This was the uniqueness of Navaho: not only could the "talkers" speak a native American Indian language for transmission, but they could also use code words. Their radio transmissions would be double enciphered by the Navaho code-talkers.

The initial group of 29 young Navaho Indians selected for the Marine program had the formidable task of constructing the code, which originally used 211 words for the most frequent military terms. This limited number of terms—to ease memory requirements—was supplemented by an alphabet to spell out proper names and other words not included on the code list.

The next phase of classroom training was to practice using code words for operational orders. While all the students spoke basically the same Navaho, their separate dialects could have certain word variations—four different inflections could carry four different meanings. The training had to ensure that the Navaho code-talkers agreed on the words and pronunciation.

The last two weeks of the training taught the Navahos basic signalmen skills in the operation and maintenance of signal equipment. They also practiced in field conditions. Putting distance between the code-talkers tested their ability to pass verbatim texts.

Attempting to break the code, Marine cryptographers monitored the exercise transmissions. While successfully perplexed by the code-talkers, the cryptographers offered one major improvement to the code. Repetition is a major key to decoding simple substitution codes (which the Navahos used when they spelled out words). So, alternate terms for the 12 most frequently repeated letters in the English language were created. The six most frequent letters used in English are E-T-A-O-I-N. For example, if A was Ant, alternates could be, Apple or Axe. Each of the most frequent letters had three alternates. The second set of the frequently used letters in English are S-H-K-D-L-U, and those received one alternate. The alternate terms enhanced the code. For example, the word Guadalcanal spelled from the basic or original word-alphabet was Goat-Ute-Ant-Deer-Ant-Lamb-Cat-Ant-Nut-Ant-Lamb. Under an alternate set, Guadalcanal could be spelled Goat-Ute-Ant-Deer-Apple-Lamb-Cat-Axe-Nut-Axe-Leg.

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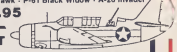

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(signed) Carl A. Gnam, Jr.
Partner

Corporal Henry Bake, Jr., and PFC George H. Kirk, man a portable radio set near the lines on Bougainville, Dec. 1943.

But, spelling out often-repeated proper names and other terms proved too time consuming—another 200 terms were added to the code-talkers' vocabulary. With the alphabet alternates and additional terms, the Navaho recruits now had the monumental task of memorizing an entire vocabulary of 411 terms. And their memory had to be lightning fast and accurate under the stress of combat situations.

Of the original 29 Navahos, two were retained at the Marine Corps training center in southern California as recruiters and instructors, and the other 27 were shipped out to use the code in combat. The 27 code-talkers were distributed among Marine Divisions and the Marine Raider Battalions.

By the spring of 1942, Rabaul on New Britain Island had been developed into a major Japanese air and naval base and had became a major target for U.S. Naval Air. But the Japanese seemed to be able to decode Navy messages without difficulty and knew in advance where the aerial forces would strike. The pilots' name for Rabaul, "Dead End," was well deserved. Many Navy pilots were lost over the landlocked harbor, victims of murderous antiaircraft fire and Japanese fighters. Eleven of the Navaho code-talkers were assigned to the Navy air radio nets. Immediately, the code-talkers secured the communications and prevented the Japanese from acquiring valuable information and fore-knowledge of intended strikes. As Japanese fighter strikes against U.S. bomber flights declined, the Navahos' actions began to save lives.

A young Navaho Private First Class, Wilsie H. Bitsie, joined the Marine Raiders on New Georgia. His code-talking enabled his battalion to maintain secret communications with the Army com-

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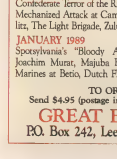

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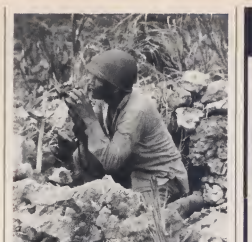

Overlooking Garapan on the island of Saipan, July 27, 1944, PFC Jack Nerzig updates the vigilance of his forefathers in a setting they never knew existed.

mand at Munda while the Marines knocked out Japanese outposts in the jungle to the north.

In the heat of battle, however, the code-talkers sometimes were used for other duties. When the Marines went ashore at Cape Gloucester on New Britain in December 1943, the monsoon rains played havoc with radio communications. In moments of expediency, the code-talkers were employed as runners—a hazardous assignment. Some of the best code-talkers were lost. Corporal Leonard Webber received the Silver Star for fighting with the Second Marine Division at Tarawa. When his radio was knocked out, he made dangerous runs on foot between the battalion command posts and front-line positions.

Much of the Iwo Jima invasion was directed through the Navaho code. The Marine V Amphibious Corps command post was on a battleship from which orders went to the three Marine division command posts on the beachhead, and down to the lower echelons. During the first 48 hours, while the Marines were landing and consolidating their shore positions, the 5th Division Signal Officer later noted: "I had six Navaho radio nets operating around the clock. In that period alone they sent and received over 800 messages without an error."

Based on such performance, the Marine Corps wanted at least 200 more Navahos for work as communications personnel. To meet that number meant an extensive canvass of schools, selective service rolls and a diligent search of the reservations and adjacent towns.

Even so, the recruitment of sufficient Navaho personnel usually fell below the goal of 25 men per month. To compensate for the shortage of Navahos, the training center recommended the creation of an unattached pool from which

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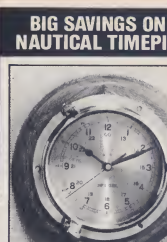

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PFC Cecil G. Trosip, 4th Marine Division, mans a communication center—such as it is—on Saipan, July, 1944.

assignments would be made as the need arose for their services. The normal allocation was 38 per Marine division.

In the meantime, the frustrated Japanese would blow horns into the radio after finding the Navahos frequencies, or beat tin cans and yell.

While it appeared the Japanese would be unable to break the code, strict care was taken to keep the program secret. The use of the Navaho code-talkers was a guarded Marine Corps secret until VJ Day. As one result, Marine intelligence officers often would receive orders to listen to radio calls that sounded like Japanese dialect. En route to Iwo Jima aboard the Fifth Marine Division's command ship, an unidentified Navy officer mistakeningly identified Navahos' code-talking over the radio as Japanese interference. The Indian signalmen had set up their radio net with Division headquarters on the deck, and the Navy officer was on the ship's bridge. The Division signal officer never told his Navy colleague that the strange tongue was Navaho.

Despite the pervasive use of Navaho code-talkers, they remained a mystery to many Marines. Their tongue was totally baffling. When the American flag was raised in that memorable moment over Mount Suribachi, on Iwo Jima, word of the event came in Navaho code. An onlooking general was amazed. How, he wanted to know, could a Japanese name be sent in the Navaho language? For the Navahos, it would have been simple to spell the name just as it is pronounced: Sheep-Uncle-Ram-Ice-Bear-Ant-Cat-Horse-Itch.

Meanwhile, little did many onlookers at Iwo Jima know at the time that Private First Class Ira Hayes, a Navaho communicator, was one of the six men who raised the U.S. flag on the summit of Mount Suribachi. □

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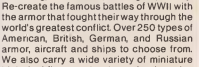

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Armament

Continued from Page 8

both engaged) and a single throw-switch to detonate the explosive charge.

Although Germany was the only major power to employ remote-controlled demolition vehicles during World War II, the idea was neither new nor German. Early examples of tracked, remote-controlled, explosive-laden carriers had appeared in France and the United States during World War I.

In 1915, two French engineers built a prototype of a "*torpille electrique*" or electric torpedo. Named for the designers, the "Gabet *et* Aubroit" was a simple device that used a small electric motor mounted on a flat platform over three sets of tracks. Two tracks were for movement and the third, shorter and mounted between the others and protruding upward, helped the vehicle negotiate obstacles. Directional and detonation commands for the 220- to 440-pound explosive charge were sent through a multistrand cable. Unlike the later Goliath, however, this first device received power through its trailing cable and not from on-board batteries. Soon, the electric torpedo was joined by the smaller "Schneider." From the firm of Schneider *et* Cie, this vehicle had the familiar dual tracks and carried an 88-pound charge.

American Elmer E. Wichersham introduced another new and improved remote demolition carrier in 1918. Employed by Caterpillar Tractor Company, Wichersham's "land torpedo" was powered by on-board wet-cell batteries and was controlled by cable. The batteries, electric motor and explosives were mounted on an open frame located between dual tracks. Each track was supported and propelled by a single large sprocket and idler wheel. Unfortunately for Wichersham, the "War to End All Wars" ended, and the government quickly lost interest in his prototype.

Remote-controlled demolition vehicles reappeared 20 years later in France. The Kégresse company worked with improved engines and control systems and, after two experimental models—the VP 38 and VP 39—introduced a prototype "*le vehicule K*" early in 1940. This time, war prevented the French government from putting the "K" into production.

At the same time, the German Ordnance Department anticipated the need for remote mine clearance machines and in October 1939 contracted the CFW Borgward company of Bremen to build them. The first model, designated the *Minenraeumwagen* (Sd. Kfz. 300), was a tracked, concrete-hulled, 1.5-ton vehicle powered by a 29-horsepower Borgward

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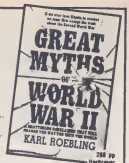

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As he looks over a dead and defused Goliath, a British sergeant appears to ponder whether or not to notify its parents.

4-cylinder gas engine. A driver took the vehicle to the area of employment and, after dismounting, guided it by radio control.

Produced in two versions—Ausf. I, called the "B I" and Ausf. II, the "B II"—the *Minenraeumwagen* was designed to detonate buried mines with a heavy steel roller it towed at three miles per hour. Fifty B Is were delivered by June 1940, when production shifted to build 100 2.3-ton, 6-cylinder, 49-horsepower B IIs. However, when the models underwent field trials, the Ordnance Department canceled production in favor of a vehicle that, instead of dragging a heavy roller, would carry a large demolition charge that would be left at a target.

Design and manufacture of the follow-on vehicle fell once again to CFW Borgward with production of the *Schwerer Ladungsträger*, or *Sonderschlepper* B IV (Sd. Kfz. 301), beginning in April 1942. Three versions of this larger demolition carrier were built before production stopped in December 1944. The first version (Ausf. A) weighed 3.6 metric tons, was powered by a 6-cylinder Borgward gas engine, and transported a hefty one-half ton charge in a sloped recess built into its front. Like earlier models, the B IV had an operator-driver who dismounted and directed the carrier to the target by radio. The operator could control his carrier to a distance of 1.25 miles with the *EP3 mit UKE6* radio-receiver. At the target, the charge was released and fell to the ground. As the carrier backed away, a time fuse ignited and initiated the demolition charge after a preset delay.

Later B IV variants grew heavier with improved armor for both driver and cargo, with the Ausf. C, introduced in 1943, weighing five tons and having a larger 3.8-liter gas engine and improved, dry-pin tracks. Normally attached to Tiger tank battalions, some of the 305 B IVs saw combat with the 312th *Panzerkompanien* with Army Group Center at Kursk and with 301st *Panzerabteilung* during August and September 1944. Unfortunately, little documentation exists on their effectiveness but, toward war's end, several were converted to self-propelled *Raketen* Pz B 54 rocket launchers while others underwent fruitless trials with primitive televisions.

In April 1942, the German Ordnance Department ordered the first Goliaths. Smaller than its predecessors, the Goliath *Leichter Ladungsträger* (Sd. Kfz. 302) was all-electric, and 2,650 were built before December 1944. The first combat units to receive the Goliath were *Panzerpionier Kompanien* (Goliath) 811-815, part of the *Heerespionierbataillon (mot)* zbV 600 (Taifun). Other engineer units received Goliaths, including the 654th *Schwere Panzerjagerabteilung* (a 70-ton Ferdinand SP gun unit) that successfully employed them during Operation *ZITADELLE* at the Battle of Kursk. Later, an Ausf.-A version of the Goliath 302 appeared that used radio control instead of the more usual trailing cable.

A second and improved version was fielded late in 1942. Known as the Goliath *Leichter Ladungsträger* (Sd. Kfz. 303) Ausf. B, this model was manufactured by Zündapp of Nürmberg and Zachertz of Freystadt, and used a modified 12.5-hp Zündapp "SZ-7" 2-cylinder 703cc motorcycle engine. The gas engine allowed the Goliath 303 to carry a heavier 220-pound demolition charge. To accommodate the engine, the Goliath grew

A U.S. Army master sergeant examines the reel-out control cable of a disabled "beetle."

to a towering 24.5 inches with the addition of a raised air intake on its top. Other minor changes appeared: thicker 10mm frontal armor, use of twin 4¼-inch bogie wheels with independent coil springs, and the addition of a reverse gear; but the machine's operation remained unchanged. Commands went to electromagnetic clutches that transferred power from the engine's direct chain drive to its improved tracks and suspension system that used only two support rollers. The Ausf. B also had greater range and was faster than the original, capable of traveling 7.5 miles at a breakneck speed of nearly 10 miles per hour—that is, if the operator could keep up at the end of his 2,000-foot control cable. Like the Goliath 302, some later editions of this model appeared with radio controls.

Both Goliath models used a special cart to transport the device from rear logistic areas to the front. The cart was nearly 10 feet long, 5 feet wide, and was fitted with two 2-foot diameter pneumatic tires. During final transport, an iron bar was inserted through an appropriate opening in the Goliath and engaged the cart just before its axle. Then, by using the cart's long tongue for leverage, two men lifted Goliath into a carry position and by reversing the process could deposit it where it was needed.

During the Normandy invasion, German defenders once again used the Goliath. At Utah Beach, special garage-like portals in German positions protected Goliaths until they were directed toward Allied landing craft and disembarking tanks. Achieving about the same results as during the thwarted German counterattack at Anzio, Goliaths did

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little to delay the U.S. 4th Infantry Division's six-mile advance on D-day, and they would not be used again in any significant numbers.

However, demonstrated tactical failures did not deter *Kleinpanzer Wanze* (small tank project) development efforts. In 1944, NSU Werke AG. of Neckarsulm was working on a larger, 2.4-ton *Mittlerer Ladungsträger* (Sd. Kfz. 304) "Springer." Intended to replace Goliath and the larger, more mobile B IV, the Springer used components from the *Kettenkrad* motorcycle-half-track and, like the B IV, had provisions for a driver and a radio controller for final employment. The vehicle was powered by a 1.5-liter Olympia engine and would have carried a 300-pound explosive charge had not the war ended before it reached full production. Those few that were produced were converted to makeshift combat vehicles armed with 105mm recoilless rifles.

Another post-Goliath remote-controlled demolition vehicle was the amphibious *Ente*, or "Duck." Based on the Springer design, this water-crossing explosive carrier had inflatable pontoons, a single exposed propeller, and would have been radio-controlled. Like so many other German weapons developed at war's end—including two designs for ultra-light tanks, Weserhutte's V.K. 301 and Bussing-NAG's V.K. 501—no concrete information about it survived except a few archival photographs, and it never saw action.

Not all German mine-clearing efforts went into small, remote-controlled, explosive-laden vehicles. On the opposite end of the spectrum stood the massive, *Raumer-S* super-heavy, mine-clearing tank. Weighing 130 tons, this unarmed behemoth rode on two sets of 10-foot diameter steel wheels, and had a two-piece articulated body. Each body section housed one of two gas-turbine engines, and the *Raumer-S* relied on its mass to destroy mines without receiving significant damage. Although feasible in design, constructing the monster required so many scarce resources that only a single prototype was produced and it remained an unused oddity.

The Allies also experimented with armored mine-clearing vehicles but, unlike the Axis, fielded manned, modified tank variants instead of small remote-controlled robots. During the campaign in Egypt, a South African engineer designed a mine-detonating flail that was attached in front of several British Matilda tanks. The heavy rotating drum and chain assemblies were powered by two Ford V-8 engines mounted atop the tank. In England, the field expedient was improved and manufactured as the "Scorpion," which could be mounted

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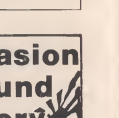

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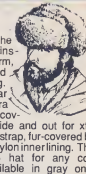

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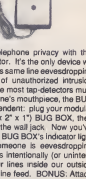

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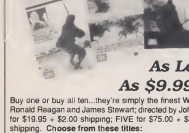

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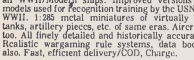

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on virtually any tank. Affixed to English Valentines and American Shermans, the Scorpion saw limited action at El Alamein and later, on the Eastern front, was mounted on Russian T34 and T76 tanks.

The Scorpion's success was tempered by its bulk and complexity. This led to a small number of American Sherman "Crab" mine-clearing tanks. The Crab used a modified Sherman hull and a boom-and-flail assembly that took power from the vehicle's engine. Even with these improvements, the Crab could only operate at two miles per hour and its use was limited.

The English also experimented with externally carried explosive charges to breach obstacles or field fortifications. A device called the "Jones Orion" held 1,000 pounds of explosives suspended vertically in front of a Churchill tank. When the Churchill reached its target, the device lowered the charge that was set off remotely once the tank retreated a safe distance. Jones Orion-Churchills saw very little use, since it is somewhat difficult to approach enemy obstacles with a half-ton charge suspended in front of your vehicle.

In February 1945, American weapon designers demonstrated a mine-clearing tank that used small explosive charges to detonate exposed mines. Guarding against the vulnerability of parading across hostile territory with exposed demolition charges, the U.S. apparatus closely resembled a crop harvester attached to a Sherman tank and conveyed small charges along 22-foot extended arms that were positioned above suspected mines. Once the charge reached the end of the arm and was lowered just over the mine, the explosive was initiated. Although the device demonstrated that it could clear a path through an 800-foot-wide mine field with its 160 internally-carried charges, the project was dropped and replaced by postwar systems that used detonating cord or multiple rocket launchers to achieve the same results.

Although the diminutive and temperamental German Goliath enjoyed less than rousing acclaim, it was the only functional remote demolition vehicle of World War II and one of history's first attempts to reduce risk to soldiers by using robot devices for hazardous but essential missions. An authentic German Goliath is on display today at the U.S. Army's Aberdeen Proving Ground Museum in Maryland. The robot principle survived the war and continues today. Armies worldwide still seek reliable and affordable remote systems that will clear obstacles, destroy armored vehicles, or perform battlefield surveillance while minimizing human risk. □

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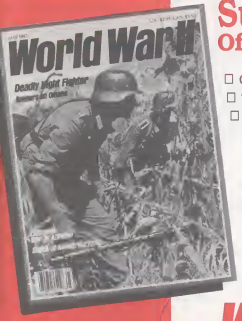

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